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ABSTRACT

Project Success Environment was funded under Title III of the 1965 Elementary Secondary Education Act to help alleviate the behavioral and academic problems of economically disadvantaged inner city students by providing them with the opportunity to experience, on an individual basis, success in school. The program that was developed during the three years of project funding consists of: (1) a positive contingency management system designed to deliver a high rate of reinforcement (and thus success) for appropriate social and academic behaviors; (2) a classroom arrangement designed to foster small group and individualized teaching; and, (3) some revision of the standard curriculum. This three-part program, usually referred to as the "success technique," has been extensively tested in 44 classrooms over the project's three years of operation. The results showed that during this time dramatic improvements in classroom management were consistently obtained. In addition, each successive year of the project's operation resulted in more substantial gains being made in achievement. Indeed, the very strong effects obtained in Year Three indicated that many of the problems associated with inner-city teaching have been eliminated or greatly reduced in project classrooms. (Author/JM)

ATLANTA PUBLIC SCHOOLS
OFFICE OF THE SUPERINTENDENT

ADMINISTRATION BUILDING
224 CENTRAL AVE., S.W.
ATLANTA, GEORGIA 30303

August 30, 1973

Dr. Will G. Atwood
Associate Director for Title III
Division of Planning, Research, and Evaluation
State Department of Education
Atlanta, Georgia 30334

Dear Dr. Atwood:

Enclosed is the End-of-Budget Period Report for Fiscal Year 1973 for Project Number 203-5-68-033 entitled "Success Environment: An Approach to Community Educational Improvement." Included in this report are: (1) the statistical data for Fiscal Year 1973; (2) the narrative report which provides a three-year summary of the evaluation activities; and (3) a financial report for Fiscal Year 1973, as well as combined three-year financial report.

We will be happy to provide you with any additional information concerning this project which you desire.

Sincerely yours,

Alonzo A. Crim
Superintendent

AAC: gh
Enclosure

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THE SUCCESS ENVIRONMENT: AN APPROACH TO COMMUNITY EDUCATIONAL IMPROVEMENT

End of Budget Period Report
Fiscal Year 1973

Report Prepared by:

Gail Russell

Project Directed by:

Mr. Marion Thompson

Dr. Jarvis Barnes
Assistant Superintendent
for Research and Development

Dr. Alonzo A. Crim
Superintendent

Atlanta Public Schools
224 Central Avenue, S.W.
Atlanta, Georgia 30303

September, 1973

UD 013963

Word Processing Staff: Linda Thomas, Pat Harris, Lee Poole,
Billie Shipp, Ginger Harden, Ginger Lippitt, Jane Hooper.

A C K N O W L E D G M E N T S

Special acknowledgment is extended to Dr. Scott Persons, Evaluator for Project Success Environment. During the three years of the project's operation, Dr. Persons has supervised the collection of in-class observational data and during Year III he has worked closely with the project's exportation and dissemination efforts. Sections of this report related to these items have been prepared by Dr. Persons.

Special acknowledgment is also extended to Dr. Howard Rollins of Emory University who has been a consultant with Project Success Environment during its three years of operation. Dr. Rollins has provided much of the theoretical expertise associated with the success technique. He has also been instrumental in providing excellent teacher training and in developing the Behavior Management Check List which provides a highly reliable method of assessing how effectively teachers use the success technique. Dr. Rollins has prepared sections of this report relating to these items.

Project Success Environment was effective due to the continuous efforts of its staff. This staff included:

Mrs. Jean Bowen, Coordinator
Elementary Schools

Miss Jennifer Daniell, Lead Teacher
Middle Schools

Mrs. Sylvia Jones, Coordinator
Middle Schools

Dr. Scott Persons
Research/Evaluation

Mrs. Francis Ruth, Lead Teacher
Elementary Schools

Mrs. Ann Sapp
Technical Writer

Mr. William E. Skuban
Behavior Management Technican

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PART I

STATISTICAL DATA

STATE OF GEORGIA
DEPARTMENT OF EDUCATION
STATE OFFICE BUILDING
ATLANTA, 30334

ESEA TITLE III STATISTICAL DATA
Elementary and Secondary Education Act of 1965 (P.L. 89-10)

THIS SPACE FOR S.D.E. USE ONLY →	PROJECT NUMBER	VENDOR CODE	COUNTY CODE	REGION CODE	STATE ALLOTMENT

SECTION A - PROJECT INFORMATION

1. REASON FOR SUBMISSION OF THIS FORM *(Check one)*

- A [ ] INITIAL APPLICATION FOR TITLE III GRANT
- B [ ] RESUBMISSION
- C [ ] APPLICATION FOR CONTINUATION GRANT
- D [X] END OF BUDGET PERIOD REPORT

2. IN ALL CASES EXCEPT INITIAL APPLICATION. GIVE ASSIGNED PROJECT NUMBER: 203-5-68-033

3. MAJOR DESCRIPTION OF PROJECT: *(Check one only)*

- A [X] INNOVATIVE
- B [ ] EXEMPLARY
- C [ ] ADAPTIVE

4. TYPE(S) OF ACTIVITY *(Check one or more)*

- A [ ] PLANNING OF PROGRAM
- B [ ] PLANNING OF CONSTRUCTION
- C [ ] CONDUCTING PILOT ACTIVITIES
- D [X] OPERATION OF PROGRAM
- E [ ] CONSTRUCTING
- F [ ] REMODELING

5. PROJECT TITLE *(5 Words or Less)*

THE SUCCESS ENVIRONMENT: AN APPROACH TO COMMUNITY EDUCATIONAL IMPROVEMENT

6. BRIEFLY SUMMARIZE THE PURPOSE OF THE PROPOSED PROJECT AND GIVE THE ITEM NUMBER OF THE AREA OF MAJOR EMPHASIS AS LISTED IN SEC. 303, P.L. 89-10. *(See instructions)*

To develop a success technique (positive contingency management program) appropriate for use with inner city pupils. The program provides a positive classroom environment where teachers maximize student successes and minimize student failures. This is accomplished by reinforcing desirable student behavior patterns.

ITEM NUMBER 3

7. NAME OF APPLICANT *(Local Education Agency)*	8. ADDRESS *(Number, Street, City, State, Zip Code)*
Atlanta Board of Education	224 Central Avenue, S.W. Atlanta, Georgia 30303

9. NAME OF COUNTY	10. CONGRESSIONAL DISTRICT
Fulton	Fifth

11. NAME OF PROJECT DIRECTOR	12. ADDRESS *(Number, Street, City, State, Zip Code)*	PHONE NUMBER / AREA CODE
Mr. Marion Thompson	210 Pryor Street, S.W. Atlanta, Georgia 30303	523-3436 404

13. NAME OF PERSON AUTHORIZED TO RECEIVE GRANT *(Please type)*	14. ADDRESS *(Number, Street, City, State, Zip Code)*	PHONE NUMBER / AREA CODE
Dr. Alonzo A. Crim	224 Central Avenue, S. W. Atlanta, Georgia 30303	659-3381, ext.201 404

15. POSITION OR TITLE

Superintendent

SIGNATURE OF PERSON AUTHORIZED TO RECEIVE GRANT	DATE SUBMITTED
	8/30/73

PAGE 1

SECTION A – Continued

16. LIST THE NUMBER OF EACH CONGRESSIONAL DISTRICT SERVED	17A. TOTAL NUMBER OF COUNTIES SERVED	18. LATEST AVERAGE PER PUPIL ADA EXPENDITURE OF LOCAL EDUCATION AGENCIES SERVED
5	1	$ 966.63
	B. TOTAL NUMBER OF LEA'S SERVED: 1	
	C. TOTAL ESTIMATED POPULATION IN GEOGRAPHIC AREA SERVED: 12,782	

SECTION B – TITLE III BUDGET SUMMARY FOR PROJECT (Include amount from item 2c below)

1.		PREVIOUS OE GRANT NUMBER	BEGINNING DATE (Month, Year)	ENDING DATE (Month, Year)	FUNDS REQUESTED
A.	Initial Application or Resubmission				$
B.	Application for First Continuation Grant				$
C.	Application for Second Continuation Grant				$
D.	Total Title III Funds				$
E.	End of Budget Period Report				$

2. *Complete the following items only if this project includes construction, acquisition, remodeling, or leasing of facilities for which Title III funds are requested. Leave blank if not appropriate.*

A. *Type of function (Check applicable boxes)*

1 ☐ REMODELING OF FACILITIES 2 ☐ LEASING OF FACILITIES 3 ☐ ACQUISITION OF FACILITIES

4 ☐ CONSTRUCTION OF FACILITIES 5 ☐ ACQUISITION OF BUILT-IN EQUIPMENT

B. 1. TOTAL SQUARE FEET IN THE PROPOSED FACILITY	2. TOTAL SQUARE FEET IN THE FACILITY TO BE USED FOR TITLE III PROGRAMS	C. AMOUNT OF TITLE III FUNDS REQUESTED FOR FACILITY
		$

SECTION C – SCHOOL ENROLLMENT, PROJECT PARTICIPATION DATA AND STAFF MEMBERS ENGAGED

1.			PRE-KINDERGARTEN	KINDERGARTEN	GRADES ~~1-6~~ 1–5	GRADES ~~7-12~~ 6–8	ADULT	OTHER	TOTALS	STAFF MEMBERS ENGAGE IN IN-SERVICE TRAINING FOR PROJECT
A	School Enrollment in Geographic Area Served	(1) Public	120	130	822	1,696				
		(2) Non-public								
B	Persons Served by Project	(1) Public			275	270				7
		(2) Non-public								
		(3) Not Enrolled								
C	Additional Persons Needing Service	(1) Public								
		(2) Non-public								
		(3) Not Enrolled								

2. TOTAL NUMBER OF PARTICIPANTS BY RACE (Applicable to figures given in item 1B above)	WHITE	NEGRO	AMERICAN INDIAN	OTHER NON-WHITE	TOTAL
		545			545

SECTION C - continued

3. RURAL/URBAN DISTRIBUTION OF PARTICIPANTS SERVED OR TO BE SERVED BY PROJECT

PARTICIPANTS	RURAL		METROPOLITAN AREA		
	FARM	NON-FARM	CENTRAL-CITY	NON-CENTRAL CITY	OTHER URBAN
PERCENT OF TOTAL NUMBER SERVED			100.0		

SECTION D - PERSONNEL FOR ADMINISTRATION AND IMPLEMENTATION OF PROJECT

1. PERSONNEL PAID BY TITLE III FUNDS

TYPE OF PAID PERSONNEL	REGULAR STAFF ASSIGNED TO PROJECT			NEW STAFF HIRED FOR PROJECT		
	FULL-TIME 1	PART-TIME 2	FULL-TIME EQUIVALENT 3	FULL-TIME 4	PART-TIME 5	FULL-TIME EQUIVALEN 6
A. ADMINISTRATION/ SUPERVISION	6	3	8-1/4			
B. TEACHER:						
(1) PRE-KINDERGARTEN						
(2) KINDERGARTEN						
(3) GRADES 1-6						
(4) GRADES 7-12						
(5) OTHER						
C. PUPIL PERSONNEL SERVICES						
D. OTHER PROFESSIONAL						
E. ALL NON-PROFSSIONAL	11	2	10-1/2			

F. FOR ALL CONSULTANTS PAID BY TITLE III FUNDS → (1.) TOTAL NUMBER RETAINED 3 (2.) TOTAL CALENDAR DAYS RETAINED 110

2. PERSONNEL NOT PAID BY TITLE III FUNDS

TYPE OF UNPAID PERSONNEL	REGULAR STAFF ASSIGNED TO PROJECT			NEW STAFF HIRED FOR PROJECT		
	FULL-TIME 1	PART-TIME 2	FULL-TIME EQUIVALENT 3	FULL-TIME 4	PART-TIME 5	FULL-TIME EQUIVALEN 6
A. ADMINISTRATION/ SUPERVISION		5	2			
B. TEACHER:						
(1) PRE-KINDERGARTEN						
(2) KINDERGARTEN						
(3) GRADES ~~XXXX~~ 1-5	11		11			
(4) GRADES ~~XXX~~ 6-8	9		9			
(5) OTHER						
C. PUPIL PERSONNEL SERVICES						
D. OTHER PROFESSIONAL						
E. ALL NON-PROFESSIONAL						

F. FOR ALL CONSULTANTS NOT PAID BY TITLE III FUNDS → (1.) TOTAL NUMBER RETAINED 2 (2.) TOTAL CALENDAR DAYS RETAINED 15

SECTION E - NUMBER OF PERSONS SERVED OR TO BE SERVED AND ESTIMATED COST DISTRIBUTION

	MAJOR PROGRAM OR SERVICES	TOTAL NUMBER SERVED OR TO BE SERVED						NONPUBLIC SCHOOL PUPILS INCLUDED (7)	ESTIMATED COST (8)
		PRE-K (1)	K (2)	1-5 (3)	6-8 (4)	ADULT (5)	OTHER (6)		
1.	EVALUATIVE PROGRAMS								
A	Deficiency Survey (Area Needs)								
B	Curriculum Requirements Study (Including Planning for Future Need)								
C	Resource Availability and Utilization Studies								
2.	INSTRUCTION AND/OR ENRICHMENT								
A	Arts (Music, Theater, Graphics, Etc.)								
B	Foreign Languages								
C	Language Arts (English Improvement)								
D	Remedial Reading								
E	Mathematics								
F	Science								
G	Social Studies/Humanities								
H	Physical Fitness/Recreation								
I	Vocational/Industrial Arts								
J	Special-Physically Handicapped								
K	Special-Mentally Retarded								
L	Special-Disturbed (Incl. Delinquent)								
M	Special-Dropout								
N	Special-Minority Groups (Behavior Modification)			275	270				
3.	INSTRUCTION ADDENDA	Approximately 1,775 students were served when proliferation activities are included.							
A	Educational TV/Radio								
B	Audio-Visual Aids								
C	Demonstration/Learning Centers								
D	Library Facilities								
E	Material and/or Service Centers								
F	Data Processing								
4.	PERSONAL SERVICES								
A	Medical/Dental								
B	Social/Psychological								
5.	OTHER								

PART II

NARRATIVE REPORT

Prepared by:
Dr. Scott Persons, Ms. Gail Russell, Dr. Howard Rollins

NARRATIVE REPORT

Children from low socio-economic backgrounds, both black and white, are failing to gain an adequate education in the nation's inner-city schools. In fact, the educational achievement of these children has been repeatedly documented as dismal. As a group, they fall further and further behind their economically advantaged suburban peers with each year of schooling.

Our public schools are designed to build successively year after year upon skills acquired by children in previous years. If at any point the child has not acquired the appropriate prerequisite skills, failure is likely. For inner-city children such failure often occur early since they typically enter school poorly prepared to handle both the standard public school curriculum and the middle class format of the classroom. Further, a history of failure may promote expectations of failure which in turn make actual failure more likely. Thus, inner-city children are forever behind, confused, and as a consequence probably lose all interest in understanding new academic tasks. As a result, inner-city classrooms are filled with unhappy, restless children who are relatively uninvolved in academic work and often are highly disruptive.

Project Success Environment: An Approach to Community Educational Improvement was funded to help alleviate these behavioral and academic problems by providing students with the opportunity to experience, on an individual basis, success in school. The program that was

developed during the three years of project funding consists of (1) a positive contingency management system designed to deliver a high rate of reinforcement (and thus success) for appropriate social and academic behaviors, (2) a classroom arrangement designed to foster small group and individualized teaching, and (3) some revision of the standard curriculum. This three-part program, usually referred to herein as the "success technique," has been extensively tested in forty-four classrooms over the project's three years of operation. The results showed that during this time dramatic improvements in classroom management were consistently obtained. In addition, each successive year of the project's operation resulted in more substantial gains being made in achievement. Indeed, the very strong effects obtained in Year III indicated that many of the problems associated with inner-city teaching have been eliminated or greatly reduced in project classrooms.

Often, innovative programs have produced effective outcomes but then failed because they were either (a) too costly, (b) impractical for implementation in most schools, or (c) because no effective plan was developed for exporting the program. In most applications of contingency management (behavior modification) in school settings, a specialist trains a single teacher and is then continually available to provide feedback and to suggest changes in the program when failures occur. Clearly, time and expense prohibit the training of large numbers of teachers in this fashion. On the other hand, programs designed for group training in contingency management

usually train teachers in isolation from the context in which they teach. Once trained, the teachers are expected to return to their schools, develop a program suiting their particular setting, implement the program, and assess its effectiveness with little assistance. This approach leads to many failures and to backsliding even when effective programs are developed.

Project Success Environment has found viable solutions to the problems of cost-effective teacher training and exportation. The project has developed a four-day teacher training workshop. The workshop provides teachers with an understanding of the theory behind the success technique, practicum experiences using the technique in a classroom with students, and a series of checklists that serve as guidelines for implementing the program. Moreover, in order to export the technique to other schools and to guarantee that the program survives there beyond the first few months of implementation, the project has developed the "principal training model". Essentially, a principal and two of his teachers are first trained by the project staff to apply the technique themselves, and then they are trained both to conduct a four-day workshop in their own school and also to administer and oversee the implementation of the technique on a day-to-day basis.

What follows is a detailed summary of the project's efforts over three years of funding to develop and evaluate the success technique and to solve the problems of cost-effective teacher training and exportation.

Development of the Success Technique

Project Success Environment has developed an effective program that alleviates many of the behavioral and academic problems normally associated with inner-city education. This program applies positive contingency management in the classroom to minimize student failure and maximize student success. Positive contingency management, or more simply, the success technique, is essentially a token economy, behavior modification program that delivers a high rate of reinforcement for appropriate social and academic behaviors. A detailed description of the program as implemented during Year III is presented within the Method section of Appendix A in this report.

The effects of the success technique on both pupils and teachers were evaluated during each year of the project's funding. Three types of data were collected: pupil and teacher behavior as recorded during in-class observations; performance of pupils on academic aptitude and achievement testing; and pupil performance on several psychological tests. Data collected in project classrooms were compared to data collected in appropriate comparison classrooms. Results for each of the project's three years of operation are summarized below.

Year I

A detailed description of the program and the results of its implementation during Year I are presented in the End-of-Budget Period Report, Fiscal Year 1971. In-class observational data collected

during Year I indicated that the project teachers minimized failure experiences and maximized success experiences in their classrooms. On the average, the project teachers rewarded their pupils eight to ten times for each punishment experience. In contrast, the control pupils received an average of only two to three rewards per punishment.

Observation of pupil behavior revealed that the success technique effectively increased attention to assigned academic tasks and reduced disruptive behavior in the classroom. From September to April, the project pupils exhibited a dramatic rise in academic involvement as compared to a decline shown by control pupils. By April, the attention level of the project pupils was more than 90 per cent on-task as contrasted with the approximate 77 per cent level exhibited by the control pupils. In addition, project pupils were less than one-half as disruptive as control pupils at every comparison point. Data from official school records also showed that the success technique had a beneficial effect on pupil attendance and tardiness at the elementary level, although there was no effect among middle school students.

The effect of the success technique on academic achievement was assessed by means of the Metropolitan Achievment Tests (MAT), which was administered to project and control pupils on a pretest-posttest basis. The results of the achievement testing were inconclusive in Year I. Only in the third grade did project students consistently make greater gains than controls on both the reading and math subtests. One encouraging result was that the primary grades (first, second,

and third) scored above grade level on the Sullivan Programmed Reading materials. The seventh grade, however, showed limited academic gain on both the MAT and the Sullivan materials.

Because IQ scores were intended only for purposes of statistical control, a standardized academic aptitude test was administered to all pupils during the pretest period but not during the posttest period. However, posttest scores, for the third grade only, were obtained from the Atlanta City-Wide Testing Service which routinely tested this grade during the posttest period. The IQ scores of these project pupils climbed some 14 points during the school year, shifting from well below average to almost precisely the national average. In contrast, the scores of the control pupils increased only 8 points. Thus, there was a strong suggestion that the experimental treatment might serve to elevate academic aptitude.

Several psychological tests were given in order to measure changes in self-esteem, attitude toward school, and locus of control. Only the third grade project students gained more in self-esteem than the control group. There was some evidence that the project pupils were more willing to accept responsibility for their success in school. There was no change in their attitude toward school.

Year II

First year results indicated that the success technique was sufficiently developed to provide inner-city teachers with a usable classroom management system but not, as yet, an effective program

for the acceleration of academic performance. In the second year, the success technique was refined in order to (a) improve the classroom management system, (b) produce accelerated academic performance, and (c) reduce the cost of the system to maximize its economic feasibility. The major changes for Year II were (a) the elimination of full-time paraprofessional help for each class and (b) a shift within the first six weeks of school from the reinforcement of conduct behaviors to reinforcement of academic behavior. In addition, costly, tangible reinforcers were phased out of the reinforcement system within the first six weeks of school.

A detailed description of the program and the results of its implementation during Year II are presented in the End-of-Budget Period Report, Fiscal Year, 1972. In summary, the observation data for Year II again indicated that the project pupils were exposed to significantly more positive reinforcement than their counterparts in the control classes. Although the rate of punishment was relatively low in both project and control classes, incidences of punishment in the project classes were almost nonexistent, and less than one-third the rate in control classes.

The observational data also indicated that the project pupils were significantly less disruptive in class than control pupils in both the elementary and middle schools. In addition, the level of disruption in the project classes declined significantly over the school year. During the first week of school there were, on the

average, almost two incidences of disruption in the control classes for each incident in the project classes. By the last two weeks in school, there were 12 incidences of disruption in the control classes for each incident in the project classes.

The project pupils also devoted significantly more time to assigned academic materials during the observational periods. For the most part, the attention level in the project classes increased during the first few weeks of school and remained at a high level thereafter. The attention level for the control classes was relatively low throughout the school year. During the first week of school, the elementary project pupils were on-task, an average of 71 per cent of the time as contrasted with the elementary control pupils who were on-task 59.2 per cent of the time. In the middle school, the project and control pupils were on-task 78.4 per cent and 61.5 per cent of the time respectively. After the first week there was an increase in on-task behavior in the project classes, which gradually stabilized at approximately 90 per cent in both the elementary and middle schools. In contrast, the on-task behavior in the control classes continued to be a good deal lower and more erratic, ranging from a high of 68 to a low of 48 per cent.

Because there was some indication during Year I that the success technique may serve to elevate academic aptitude (IQ), appropriate levels of the California Test of Mental Maturity were administered to all project and control pupils in September and May of Year II.

The results of this testing indicated that the success technique indeed had a beneficial effect upon academic aptitude. The project pupils at five of the six grade levels under consideration gained more in tested IQ than their control counterparts, with statistically significant gains at four of the six grade levels.

During Year II academic achievement in the areas of reading and arithmetic was measured by means of the California Achievment Tests, which were administered to all project and control classes in September and in April. The project pupils made greater gains on all the reading subtests at all grade levels except one (Reading Vocabulary, fourth grade). Two of the three gains in grades two and three, and all the gains in grades six and eight were statistically significant. At the fourth grade level, gains on two of the three subtests were in the right direction but did not reach statistical significance. The CAT was administered to the first grade project and control pupils as a posttest in April. The first grade project pupils scored significantly higher than controls on all the reading subtests.

In arithmetic, project pupils made greater gains at the second, third, sixth, and eighth grade levels on all the arithmetic subtests. Two of these gains at the sixth and eighth grade levels were statistically significant. When given the CAT as a posttest in April, first grade project pupils scored significantly higher on all arithmetic subtests than did first grade control pupils.

During the seven month pretest-posttest interval of Year II, project pupils gained an average of 6.9 months on the CAT composite total reading score compared to the 3.4 months gained by controls. On the CAT total arithmetic score project pupils gained 6.5 months compared to the 3.9 months gained by controls.

The psychological tests administered during Year II indicates that project pupils became more positive in their attitude toward school between September and May. Project pupils were also willing to accept responsibility for their academic failures than controls. On the other hand, project and control pupils did not differ in their self-esteem or in the social desirability of their responding.

Year III

The success technique used during Year III was essentially the same as for Year II. Thus, Year III replicated the program for Year II. However, an effort was made in Year III to determine if the program would remain effective when the frequency of in-class observations was reduced. Clearly, the technique is not practical if teachers must be monitored on a bi-weekly basis. Consequently, during Year III in-class observations were made only twice monthly. In addition, the project staff wished to determine if newly trained, and therefore, inexperienced teachers could apply the technique as effectively as experienced teachers. The results of implementation for Year III including the answers to the above questions are presented in detail in Appendix A of this report.

Pupil behavior during Year III was as good as pupil behavior for Year II, especially during the latter half of the year; although teacher behavior was not as good during Year III, possibly because observations were less frequent, project teachers reinforced only one-half as often in Year III, but they continued to reinforce at a much higher rate than they punished and the reduction in reinforcement frequency did not cause a deterioration in pupil behavior from Year II to Year III. These results suggested that the absolute number of in-class observations may be substantially reduced without adversely affecting the effectiveness of the success technique.

The behavior of teachers and pupils in classes with experienced teachers (at least one year in the project) was compared to teacher and pupil behavior in classes with inexperienced teachers. The experienced and inexperienced teachers differed little in their delivery of reinforcement and punishment.

Pupils in classes of inexperienced teachers at the elementary level did as well as, or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out performed pupils in the classes of inexperienced teachers. Older children with several years of failure experience in school are, no doubt, likely to be more resistant to the new environment provided by the success technique. Thus, inexperienced teachers at the middle school level may require more time to learn to effectively apply the program.

The success technique accelerated academic achievement again during Year III. Project pupils gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During the pretest-posttest interval of Year III project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. In arithmetic achievement, project pupils gained 7.3 months while controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II.

Summary: Years I - III

Consistently, over the three-year period, it was found that the success technique had a beneficial effect on both pupil and teacher behavior. Systematic in-class observations revealed that project teachers reinforced their pupils more and punished them less than a comparable group of control teachers. Thus, the teachers maximized their pupils' success experiences while minimizing their failure experiences. In-class observational data also showed that project pupils spent more time on assigned academic tasks and exhibited fewer disruptions than control pupils.

Pupil behavior did not decline when in-class observations were made less frequently, although teachers tended not to reinforce

quite as much when fewer observations were made. In addition, there was no difference in the behavior of experienced versus inexperienced teachers or in the behavior of their students.

Thus, from the early stages of the program's operation the results gained from in-class observation have clearly indicated that teachers can be effectively trained to provide reinforcement for their pupils while minimizing punishment and that pupils, in turn, respond very rapidly by causing fewer classroom disruptions and by spending substantially greater amounts of their time on assigned academic tasks.

The results of achievement testing have indicated that the success technique is effective in accelerating academic achievement. However, to get strong results, reinforcement for academic achievement should begin early in the school year, as soon as the classroom control has been established. Substantial gains in academic achievement were found at both the elementary and middle school level. In addition, it was shown that inner-city pupils could consistently gain one month in reading and one month in arithmetic for each month that they were in school.

The results from a standardized IQ test indicated that the success technique tends to promote academic aptitude. Performance on psychological tests was more variable. However, there was evidence that project pupils improved in their attitude toward school and that project pupils came to accept more responsibility for academic success and failure. No substantial changes in self-concept were found.

Longitudinal Effects

There was some interest during Year III in determining what longitudinal effects were produced by the success technique. Several preliminary studies were conducted that attempted to compare students who had extended experience in success classes to those never in the project. These studies are reported in Appendix C. Because of high turnover and the resulting low sample sizes, these studies yielded inconclusive and mixed results.

Exportation

By the middle of the project's second year of operation, the project staff was convinced that the success technique was operating effectively in the classrooms of the research base, and there was a growing fund of data that supported this conviction. However, a great deal of time and money had been and were being expended to develop and implement the technique in these classrooms and make it work there. The crucial question remained as to whether the technique could be exported to other classrooms in other schools at a reasonable cost and be as effective there as it was in classrooms of the research base. Thus, in the latter half of Year II, the project staff began to develop and evaluate means for exporting the success technique to other elementary schools in Atlanta and eventually to schools throughout Georgia. Cost-effective exportation required that a low-cost teacher training program be developed and that a plan be devised whereby the local school principal would be able to implement and administer the ongoing operation of the success technique.

Between January of Year II and August of Year III, successive steps were taken toward developing means for exporting the success technique. Those steps are reviewed below:

The Toomer Effort: Cost-Effective Teacher Training

In January, 1972, the project received a request from the principal of Fred A. Toomer Elementary School to train the school's entire faculty in the use of the success technique. The project accepted the request and decided that training would center on preparing the Toomer teacher to reduce student disruption and increase attention using the success technique. Student disruption was a growing concern at Toomer and this emphasis was readily agreed to by the Toomer faculty.

The project staff wanted to know if, in a brief period of time, they could train the entire faculty of Toomer to use the success technique effectively. To this end a training program requiring four half-day sessions was developed that included instruction in the theory behind the success technique and practicum experience in the use of the technique. Further, they wanted to know if the technique's effectiveness could be maintained with limited assitance and at reasonable cost. In the original project classes, in-class observation had shown that project teachers reinforce more and punish less than comparison teachers using traditional teacher methods and that project pupils disrupt the class much less often and spend a greater percentage of time on task than pupils in comparison classes.

At Toomer, the project staff looked for changes to occur on these same four measures -- teacher reinforcement, teacher punishment, student disruption, and student attention to task. An initial set of classroom observations was made in January before training began and a second set of observations was made in March after training had been completed and the success technique had been operable for a month.

The results of these observations showed that, after the brief workshop on the success technique, the Toomer teachers reinforced more and punished less. More importantly, their students were disruptive much less often than they had been before implementation of the success technique and student attention to assigned academic tasks increased significantly so that the average child at Toomer was attentive approximately 85 per cent of the time.

The level of teacher and student behaviors at Toomer after implementation of the technique was slightly below the level of behavior at Toomer before implementation. Considering the minimal time and money expended at Toomer, these results were encouraging and suggested that cost-effective exportation of the success technique was not only a desirable but also a feasible undertaking. (The results are reported in detail in Appendix D of The End-of-Budget Period Report FY 1972.)

The Toomer Log

The Toomer effort was undertaken not only to answer formal research questions but also to gain first-hand knowledge of the practical day-to-day problems, including cost, involved in introducing and maintaining the success technique throughout an entire school.

As significant events occurred at Toomer, they were entered in a daily log. This log, edited and condensed, has been reproduced for dissemination to those readers, particularly school personnel, who are interested in and concerned about the practical difficulties and day-to-day procedures involved in implementing a positive contingency management program in a total school setting. A copy of the Toomer Log accompanies this report in a separate binding.

Replication and Revision of the Toomer Exportation Model

In the late Spring of 1972, the project staff grew concerned that the positive effects of the technique at Toomer, which had become obvious almost immediately in February, were weakening. There were no data to confirm or deny this concern, but the concensus of opinion was that, after the staff had pulled out of Toomer completely in the spring, the reinforcement systems were not administered as well as needed. Thus, the project staff proposed to study during the 1972-73 school year, a revised exportation model in which the principal would be thoroughly trained in positive contingency management and clearly responsible for administration of the reinforcement systems. Moreover, the efficacy of this model would be assessed

not only soon after the introduction of the success technique but also many months later.

To carry out this study, Grant Park Elementary School was selected as the exportation site. In May, 1972, eight volunteer teachers at Grant Park were observed in order to obtain baseline data regarding their habits of reinforcment and punishment along with their students' habits of disruption and attention. The Grant Park faculty underwent brief but intensive training in the success technique in August, 1972. Data on the same sample of teachers were obtained in October, 1972, one month after the technique was implemented, and again in May, 1973, eight months of operation.

The revised exportation model, with the principal responsible for overseeing implementation on an ongoing basis, yeilded encouraging results at Grant Park. By and large, the short-term improvements in behavior that occurred at Toomer were replicated at Grant Park and extended over an eight-month period. A complete report of the study is presented in Appendix B of this report.

Training Package for Principals

To facilitate exportation, a training package was written for principals who wish to prepare their faculties to implement the success technique. The contents are based on the project's three years of experience training teachers to apply the success technique and, in particular, on the knowledge gained exporting the technique to Toomer and Grant Park. The Project Success Environment:

Training Package for Principals is a detailed guide for training teachers in the theory behind the success technique and for preparing the teacher to implement the technique in their own classrooms.

The package is given to an interested principal, only after he, accompanied by two or three members of his faculty, has come to Atlanta for a week of observation and instruction by the Project Success Environment staff. The principals for three rural elementary schools have already completed a week of this observation and instruction, which included instruction in the use of the training package. After a week of training, these principals told the project staff that they felt prepared to take the package, train their teachers, and oversee a positive contingency management program in their schools. It is anticipated that the project staff will provide a modicum of consultative assistance to one or more of these principals as they train their teachers to implement and maintain the success technique.

A copy of the training package accompanies this report in a separate binding.

Behavior Management Check List

Based on three years experience observing teachers and giving them immediate feedback on their use of the success technique, the project staff has developed the Behavior Management Check List. This instrument is included in the training package to help the principal in a consumer school determine for himself how well each of his teachers is implementing the success technique. The

items of the check list describe specific observable behaviors that a success teacher must perform consistently in order to properly utilize positive contingency management. Using the check list, a principal can observe and give feedback in approximately 15 minutes.

In anticipation of this instrument's use as a research and evaluation tool, a system has been devised for obtaining a numerical rating of a teacher's performance of the behaviors described on the check list. The inter-rater reliability of the rating system has been established. A principal may choose not to rate his teachers in this way, but rather to use the check list as a guide for observing and expressing approval or making suggestions. A copy of the check list, as well as a more complete explanation of its use and reliability are presented as Appendix D of this report.

Exportation Cost Estimate

The exportation model, using the principal as trainer and overseer, entails a reasonable cost to the consumer school. Based on the experience with proliferation at Toomer and Grant Park, the project has estimated both the maximum and the minimum cost per pupil of implementing and maintaining the success technique in a typical elementary school containing approximately 400 pupils. The estimates, with expenditures broken down in detail have been made available to interested school administrators; they are presented in the Cost Analysis section of this Narrative Summary (pp 31-34).

Validation

On February 7, 1973, a Title III validation team, composed of four well-known out-of-state educators, visited the project prepared to determine whether or not the project could prove that it is innovative, cost-effective and exportable. At the end of the team's three-day visit, Project Success was validated in all these areas.

Subsequent to validation, the project, along with 414 other exemplary experimental educational programs from across the United States, was invited to participate in ED/FAIR '73, a national conference for educators sponsored by the U.S. Office of Education. The project attended the fair, held in Washington D.C. between May 8 and 11, and provided information concerning Project Success Environment.

Dissemination

After the initial efforts during Year II indicated that cost-effective exportation was feasible, a new concern grew among members of the staff, a concern for disseminating information about Project Success Environment to teachers and administrators in Atlanta, as well as throughout Georgia and the nation.

A Success Story

During the second year of operation, the need arose for an audio-visual presentation to explain the success technique to interested parties. A slide-tape presentation, entitled "A Success Story", was created with the aid of the Learning Resources Center of the Atlanta Public Schools. During the last two years, "A Success Story" has been shown to many visitors of the project, to interested school

administrators and teachers throughout Atlanta and the State of Georgia and to educators from across the country at regional and national conventions. In addition, the presentation is being used in teacher training to provide trainers with an overview of what they are going to learn to do. The project has had to make a spare copy since staff members often need the presentation at two different places at the same time. Plans are now underway to produce a twenty minute 16 mm film of the success story.

Publicity

Newspaper. Two extensive, informative, and highly complimentary articles about Project Success Environment have been printed in local Atlanta newspapers. The first article, headlined "Reward Success; Ignore Failure," appeared in the Sunday, April 8, 1973, combined edition of The Atlanta Journal and Constitution; the second was printed in the Monday, July 30, 1973, edition of The Atlanta Journal. Both articles presented the success technique as a potential answer to the educational problems of the inner-city, described the emphasis on maximizing success and minimizing failure in the classroom and summarized the results achieved in Year II.

Professional Journals. Two articles about Project Success Environment have been published in education journals and a third is in press. The first appeared in the Spring, 1973, edition of The Title III Quarterly, a publication of the National Advisory Council on Supplementary Centers and Services. Entitled "Classrooms Without Failure," the

article described the success technique in some detail with illustrating photographs. A similar, through less comprehensive article appeared in the August issue of The Georgia Alert, a publication of the Georgia State Office of Education circulated to school administrators and school board members throughout the state. Finally, the Journal of Educational Psychology has accepted for publication an article written by members of the project staff entitled -- "Project Success Environment: An Extended Application of Contingency Management in Inner-City Schools." The article is a report of the research and evaluation that has been an important part of the project since its inception. The authors conclude that: "Inner-city teachers can be trained to employ positive techniques of behavior management, . . . they like and use such training, and. . . public school pupils up into adolescence profit dramatically from such a restructuring of their learning environment".

Television. During the first week in May, 1973, a four-and-one-half minute videotaped documentary of Project Success was produced by the news staff of WSB-TV, the local affiliate of The National Broadcasting Company. The highly favorable documentary was shown on the local news program aired on Channel 2.

Conventions

In addition to participating in ED/FAIR '73, the project has also been part of the Southern States Work Conference at Daytona Beach, Florida. For two consecutive years Project Success has accepted an invitation to make a presentation at the conference,

to maintain a display, and to disseminate information throughout the week-long convention.

Brochure

As indicated above, there was increasing emphasis on exportation and dissemination during the latter half of Year III. To help the project staff cope with the added demands of dissemination, a technical writer was added to the staff. This acquisition not only markedly improved the quality of all the written material produced by the project, but also made possible the creation of a brochure describing Project Success Environment, its purpose, its method, and its accomplishments. The brochure is eye catching and written in non-technical language. It has been given to interested laymen, teachers, and school administrators who have written to or visited the project or who have attended meetings and conventions where some member of the project staff made a presentation. A copy of the brochure -- "Project Success Environment" -- accompanies this report in a separate binding.

Costs for Budget Period

The following cost figures are based on actual expenditures during the first three quarters of Year III and estimated expenditures during the fourth quarter.

Total Federal Support Under Title III, P. L. 89-10	$236,969
Total Federal Support other than Title III, P. L. 89-10	None
Total non-Federal Support	170,784
Total Cost	$407,753

The estimated cost for implementing the success technique during Year III was $67,140, or $134 per pupil. This figure represents the actual cost of supporting the positive reinforcement treatment in the classroom and includes the cost of special materials and equipment which averaged $471 per class and the average cost of tangible rewards, including the cost of supporting activity rooms at $68 per class. The cost of rewards is estimated at $1.82 per pupil for the entire project with a somewhat lower cost of $1.19 per pupil for the elementary schools.

The total estimated cost for the development of the program during Year III is $254,969 or $510 per pupil. This figure represents the total expenditure from Title III funds for research ($55,398), as well as the cost of consultative services, project staffing, and office

supplies and equipment. These developmental costs are in addition to the latest average ADA expenditure by the Atlanta Board of Education of $967 per elementary school pupil. The development cost is, for the most part, a one-time expenditure and would have limited bearing upon the continued operation of the program.

Based upon cost studies conducted in conjunction with the exportation of the success technique to new schools, the project staff have estimated both the maximum and minimum costs per pupil of implementing and maintaining the success technique in a typical elementary school containing approximately 400 pupils. These estimates, with expenditures broken down in detail, are presented on the following pages.

Project Success Environment

COST ANALYSIS

ESTIMATED START-UP AND INSTALLATION COST FOR THE ENTIRE FIRST YEAR

Based on 16 classes with 25 students per class

I. Training (16 teachers and 1 principal)	MAXIMUM	MINIMUM
a. Principal's pay during training		
Max: One week training in Atlanta plus one week training his own teachers during the summer	712	
Min: One week training in Atlanta plus training his own teachers during pre-planning week		412
b. Teacher pay during pre-service training (based on salary of $7,560/ year, training of 16 teachers for five half days)		
Max: Training during the summer	1,450	
Min: Training during the pre-planning week		0
c. Materials		
(Book - Teaching: A Course in Applied Psychology, by W. Becker; and reproduction of the PSE training package)	130	130
d. Consultant		
(to advise the principal during theory training)		
Max: Four full days plus expenses @ $100 per day	400	
Min: One full day plus expenses		100
Total Cost of Training	2,692	642
Cost Per Pupil (400 pupils)	6.73	1.61

		MAXIMUM	MINIMUM
II.	Activity Rooms (based on two rooms operating half-time)		
	a. Equipment		
	(Games and materials of interest to the students using the room; based on $250 per room)	500	500
	b. Staff		
	Max: One full-time paraprofessional (or two half-time) @$5000/year	5,000	
	Min: Volunteer parents supported by existing personnel		0
III.	Tangible Rewards		
	Max: Based on an expenditure of ten cents per day for 25 days for 400 students (tangibles then phased out)	1,000	
	Min: Based on an expenditure of ten cents per day for 5 days for 400 students with activity rooms operable immediately thereafter		200
IV.	Curriculum and Materials		
	a. Individualized Reading and Math Materials		
	Max: Purchased at a cost of $8.00 per pupil	3,200 *	
	Min: Teachers modify current curriculum along lines outlined in PSE training package to meet the individual needs of their pupils		0
	b. Reproduction (Skill sheets supplied in PSE training package will cost approximately $2.00 per pupil to reproduce)	800	800
V.	Consultant		
	(Two days during the first month of installation and one day per month for the remaining eight months of the school year)		
	Max: @$100 per day for a total of 10 days	1,000	
	Min: Person already available in the school system or through the State Department of Education		0
	Total Cost of Installation (I - V)	14,192	2,142
	Cost Per Pupil (based on 400 pupils)	35.48	5.36

*This figure can be reduced significantly if these materials are already available in the classrooms

ESTIMATED CONTINUATION COST FOR THE SECOND (OR THIRD) YEAR

Based on 16 classes with 25 students per class

		MAXIMUM	MINIMUM
I.	Activity Rooms (based on two rooms in half-time operation)		
	a. Equipment		
	(Replacement of worn out games and materials at $50 per room)	100	100
	b. Staff		
	Max: One full-time paraprofessional (or two half-time) @ $5000/yr.	5,000	
	Min: Volunteer parents supported by existing personnel		0
II.	Tangible Rewards (based on an expenditure of ten cents per child for the first five days of school)	200	200
III.	Curriculum and Materials		
	a. Individualized Reading and Math Materials		
	Max: Purchased at a cost of $8 per pupil	3,200	
	Min: Teachers continue to use modified existing curriculum and materials to meet the individual needs of their pupils		0
	b. Reproduction		
	(Skill sheets supplied in PSE training package will cost approximately $2 per pupil to reproduce)	800	800
Total Cost of Continuation		9,300	1,100
Cost Per Pupil (400 pupils)		23.25	2.75

Project Success Environment

COST ANALYSIS FOR IMPROVING CONDUCT BEHAVIOR ONLY*

Based on 16 classes with 25 students per class

I.	ESTIMATED START-UP AND INSTALLATION COST THE ENTIRE FIRST YEAR	
	A. Training During Pre-Planning Week	
	1. Principal's Salary (one week in Atlanta to be trained plus expenses)	412
	2. Materials (Book: Teaching: A Course in Applied Psychology, by W. Becker; and reproduction of the PSE training package)	130
	3. Consultant (to aid in theory training — two full days plus expenses)	200
	Total Cost of Training	742
	Cost Per Pupil (400 pupils)	1.86
	B. Activity Rooms (two rooms in half-time operation and staffed by volunteer parents require materials appropriate to students in grades 1-7)	500
	C. Tangible Rewards (based on an expenditure of 50¢ per child during first 5 days of school)	200
	Total Cost of Installation	1,442
	Cost Per Pupil (400 pupils)	3.81
II.	ESTIMATED CONTINUATION COST FOR THE SECOND (OR THIRD) YEAR	
	A. Activity Rooms (replacement of worn out games and materials at $50 per room)	100
	B. Tangible Rewards (based on an expenditure of 50¢ per child during the first five days of school)	200
	Total Cost of Continuation	300
	Cost Per Pupil (400 pupils)	.75

* These figures are based upon work done at Fred A. Toomer Elementary School

PART III

FINANCIAL REPORT

SDE 1400-004

STATE DEPARTMENT OF EDUCATION
State Office Building
Atlanta, 30334

PROPOSED BUDGET SUMMARY EXPENDITURE REPORT OF FEDERAL FUNDS

Title III, Elementary and Secondary Education Act of 1965 - Supplementary Centers and Services Program

NAME AND ADDRESS OF AGENCY: Atlanta Board of Education
224 Central Ave., S.W., Atlanta, Georgia 30303

PROJECT NUMBER: 203-5-68-033

GRANT NUMBER: 203-5-68-033-70-024

STATE: Georgia

(Check One) ☐ PROPOSED BUDGET SUMMARY (ATTACH DETAIL SCHEDULES) ☐ ESTIMATED EXPENDITURE REPORT ☐ FINAL EXPENDITURE REPORT

BUDGET PERIOD MONTH, DAY & YEAR — BEG. 7/1/72 END. 6/30/73

PART I – EXPENDITURES (other than construction)

EXPENDITURE ACCOUNTS: FUNCTIONAL – CLASSIFICATION	ACC'T NO.	EXPENSE CLASSIFICATION: SALARIES PROFESSIONAL	SALARIES NON-PROFESSIONAL	CONTRACTED SERVICES	MATERIALS AND SUPPLIES	TRAVEL	EQUIPMENT	OTHER EXPENSES	TOTAL EXPENDITURES	NEGOTIATED BUDGET
1	2	3	4	5	6	7	8	9	10	11
1 ADMINISTRATION	100	$ 23,445	$ 26,925	$	$ 252	$ 194	$	$ 7,865	$ 58,680	$ 77,297
2 INSTRUCTION	200	114,657	19,419		17,513	1,370		12,822	165,782	163,549
3 ATTENDANCE SERVICES	300									
4 HEALTH SERVICES	400									
5 PUPIL TRANSPORTATION SERVICES	500									
6 OPERATION OF PLANT	600									
7 MAINTENANCE OF PLANT	700									
8 FIXED CHARGES	800							8,154	8,154	15,722
9 FOOD SERVICES	900									
10 STUDENT-BODY ACTIVITIES	1000									
11 COMMUNITY SERVICES	1100									
12 REMODELING (IF COSTS TOTAL MORE THAN $2000 ENTER IN PART II)	1220c									
13 CAPITAL OUTLAY (EQUIPMENT ONLY)	1230						4,353		4,353	3,340
14 TOTAL →		$ 138,102	$ 46,344	$	$ 17,765	$ 1,565	$ 4,353	$ 28,840	$* 236,969	$
15 NEGOTIATED BUDGET →		$ 135,494	$ 81,044	$	$ 22,230	$ 6,836	$ 3,340	$ 10,964	xxxxxxxxxxxx	$ 259,908

* Reflects funds paid out through June 30, 1973. This does not reflect approximately $20,000 in encumbered funds. An amended Budget Summary/Expenditure report will be filed with the state by October 31, 1973.

PART II – CONSTRUCTION EXPENDITURES

(Check One)
- ☐ PROPOSED BUDGET SUMMARY
- ☐ ESTIMATED EXPENDITURE REPORT
- ☐ FINAL EXPENDITURE REPORT

BUDGET PERIOD (Month, Days, & Year)
BEGINNING:
ENDING:

	EXPENDITURE ACCOUNTS	ACC'T NUMBER	AMOUNT	NEGOTIATED BUDGET
	1	2	3	4
1	SITES			
	A PROFESSIONAL SERVICES	1210a	$	$
	B IMPROVEMENT TO SITES	1210c		
2	BUILDINGS			
	A PROFESSIONAL SERVICES	1220a		
	B NEW BUILDINGS AND BUILDING ADDITIONS	1220b		
	C REMODELING (IF $2,000 OR LESS ENTER IN PART I)	1220c		
3	ADMINISTRATIVE EXPENSES (Specify below)	1220		
	A			
	B			
4	LEASING OF FACILITIES			
5	TOTAL →		$	$

PART III – SUMMARY - AUTHORIZATIONS, EXPENDITURES, AND BALANCES OF TITLE III ESEA FUNDS

BUDGET PERIOD (Month, Days, and Year)
BEGINNING ENDING

☐ ESTIMATED EXPENDITURE REPORT
☐ FINAL EXPENDITURE REPORT

	ITEMS	PART I - EXPENDITURES OTHER THAN CONSTRUCTION	PART II CONSTRUCTION EXPENDITURES	TOTAL
	1	2	3	4
1	AMOUNT AUTHORIZED FOR EXPENDITURE FOR BUDGET PERIOD SHOWN ABOVE →			
	A UNEXPENDED FUNDS FROM GRANT AWARDED FOR PRIOR BUDGET PERIOD $			
	B APPROVED GRANT AWARD FOR BUDGET PERIOD SHOWN ABOVE $			
	C TOTAL FUNDS AUTHORIZED FOR BUDGET PERIOD ABOVE (SAME AS ITEM 1, COL. 4) $			
2	EXPENDITURES DURING BUDGET PERIOD SHOWN ABOVE →			
3	UNEXPENDED BALANCE OF FUNDS AUTHORIZED FOR EXPENDITURE DURING BUDGET PERIOD SHOWN ABOVE (ITEM 1 MINUS ITEM 2) →			

PART IV – CUMULATIVE TOTALS - GRANT AWARDS AND CASH RECEIVED SINCE INCEPTION OF PROJECT

	ITEMS	CUMULATIVE TOTAL TO DATE
1	GRANT AWARDS	
2	CASH RECEIVED	

THIS FISCAL REPORT IS CORRECT AND THE EXPENDITURES INCLUDED HEREIN ARE DEEMED PROPERLY CHARGEABLE TO THE GRANT AWARD.

SIGNATURE OF PROJECT FISCAL OFFICER: Marion Thompson — DATE: 9-5-73
SIGNATURE OF PROJECT DIRECTOR: John L. Bell — DATE: 9/7/73

DE Form 0178. July 1973

STATE DEPARTMENT OF EDUCATION
State Office Building
Atlanta, 30334

PROPOSED BUDGET SUMMARY EXPENDITURE REPORT OF FEDERAL FUNDS

Title III, Elementary and Secondary Education Act of 1965 - Supplementary Centers and Services Program

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PROJECT NUMBER: 203-5-68-033

GRANT NUMBER: 203-5-68-033-70-024

STATE: Georgia

BUDGET PERIOD: MONTH, DAY & YEAR — BEG. 7/1/70 — END 6/30/73

PART I – EXPENDITURES (other than construction)

(Check One) ☐ PROPOSED BUDGET SUMMARY (ATTACH DETAIL SCHEDULES) ☐ ESTIMATED EXPENDITURE REPORT ☐ FINAL EXPENDITURE REPORT

EXPENDITURE ACCOUNTS			EXPENSE CLASSIFICATION								
	FUNCTIONAL CLASSIFICATION	ACC'T NO.	SALARIES		CONTRACTED SERVICES	MATERIALS AND SUPPLIES	TRAVEL	EQUIPMENT	OTHER EXPENSES	TOTAL EXPENDITURES	NEGOTIATED BUDGET
			PROFESSIONAL	NON-PROFESSIONAL							
	1	2	3	4	5	6	7	8	9	10	11
1	ADMINISTRATION	100	$ 115,282	$ 69,509	$	$ 5,242	$ 5,230	$	$ 17,603	$ 212,866	$
2	INSTRUCTION	200	196,854	131,874	21,874	42,170	3,912		12,822	409,506	
3	ATTENDANCE SERVICES	300									
4	HEALTH SERVICES	400									
5	PUPIL TRANSPORTATION SERVICES	500									
6	OPERATION OF PLANT	600									
7	MAINTENANCE OF PLANT	700								31,091	
8	FIXED CHARGES	800	20,040	11,141							
9	FOOD SERVICES	900									
10	STUDENT-BODY ACTIVITIES	1000									
11	COMMUNITY SERVICES	1100									
12	REMODELING (IF COSTS TOTAL MORE THAN $2000 ENTER IN PART II)	1220									
13	CAPITAL OUTLAY (EQUIPMENT ONLY)	1230						10,079		10,079	
14	TOTAL →		$ 332,176	$ 212,524	$ 21,874	$ 47,412	$ 9,142	$ 10,079	$ 30,425	$ 663,542	$ 692,477
15	NEGOTIATED BUDGET →		$	$	$	$	$	$	$	xxxxxxxxxxxxx	$

PART II – CONSTRUCTION EXPENDITURES

(Check One)
- ☐ PROPOSED BUDGET SUMMARY
- ☐ ESTIMATED EXPENDITURE REPORT
- ☐ FINAL EXPENDITURE REPORT

BUDGET PERIOD (Month, Day, & Year)
BEGINNING
ENDING

	EXPENDITURE ACCOUNTS	ACC'T NUMBER	AMOUNT	NEGOTIATED BUDGET
	1	2	3	4
1	SITES			
	A PROFESSIONAL SERVICES	1210a	$	$
	B IMPROVEMENT TO SITES	1210c		
2	BUILDINGS			
	A PROFESSIONAL SERVICES	1220a		
	B NEW BUILDINGS AND BUILDING ADDITIONS	1220b		
	C REMODELING (IF $2,000 OR LESS ENTER IN PART I)	1220c		
3	ADMINISTRATIVE EXPENSES (Specify Below)	1230		
	A			
	B			
4	LEASING OF FACILITIES			
5	TOTAL →		$	$

PART III – SUMMARY - AUTHORIZATIONS, EXPENDITURES, AND BALANCES OF TITLE III ESEA FUNDS

BUDGET PERIOD (Month, Day, and Year)
BEGINNING ENDING

ESTIMATED EXPENDITURE REPORT
FINAL EXPENDITURE REPORT

	ITEMS	PART I - EXPENDITURES OTHER THAN CONSTRUCTION	PART II CONSTRUCTION EXPENDITURES	TOTAL
	1	2	3	4
1	AMOUNT AUTHORIZED FOR EXPENDITURE FOR BUDGET PERIOD SHOWN ABOVE →			
	A UNEXPENDED FUNDS FROM GRANT AWARDED FOR PRIOR BUDGET PERIOD $			
	B APPROVED GRANT AWARD FOR BUDGET PERIOD SHOWN ABOVE $			
	C TOTAL FUNDS AUTHORIZED FOR BUDGET PERIOD ABOVE (SAME AS ITEM 1, COL. 4 $			
2	EXPENDITURES DURING BUDGET PERIOD SHOWN ABOVE →			
3	UNEXPENDED BALANCE OF FUNDS AUTHORIZED FOR EXPENDITURE DURING BUDGET PERIOD SHOWN ABOVE (ITEM 1 MINUS ITEM 2) →			

PART IV – CUMULATIVE TOTALS - GRANT AWARDS AND CASH RECEIVED SINCE INCEPTION OF PROJECT

	ITEMS	CUMULATIVE TOTAL TO DATE
1	GRANT AWARDS	
2	CASH RECEIVED	

THIS FISCAL REPORT IS CORRECT AND THE EXPENDITURES INCLUDED HEREIN ARE DEEMED PROPERLY CHARGEABLE TO THE GRANT AWARD.

SIGNATURE OF PROJECT FISCAL OFFICER: Marion Thompson — DATE: 9-5-73

SIGNATURE OF PROJECT DIRECTOR: John T. Britt — DATE: 9/7/73

APPENDIX A

Evaluation of Project Success Environment, Year III

Fiscal Year 1973

Prepared by:
Dr. Scott Persons, Ms. Gail Russell, Dr. Howard Rollins

Tables for all analyses of variance reported herein are presented in the Attachment to Appendix A and are not referenced in the text.

INTRODUCTION

The third year of the project was essentially a replication of Year II. Second year results indicated that the success technique had provided inner-city teachers with both an effective classroom management system and an effective program for the acceleration of academic performance. Therefore, no major changes were made in the technique during year III. To ascertain whether the results of Year III would indeed replicate the results obtained in Year II, in-class observation (ICO) was continued on a limited basis and achievement testing was again conducted in September and April. The design and procedure for achievement testing in Year III were essentially the same as for Year II. However, changes were made in the procedures for collection of ICO data in order to evaluate hypotheses different from those posed in Year II.

Additional teachers were trained during the summer of 1972 and their classes were added to the research base for Year III, making a total of 20 classes. To assess the effectiveness of the training and the importance of experience as a success teacher, the in-class behavior of the new teachers and of their students was compared to the behavior of the experienced teachers and their students throughout the school year.

During the first two years of the project, trained paraprofessional observers collected in-class observational data several times a week in project and control classes. The positive effect of the technique

on the observable classroom behavior of project teachers and students was established in Year I and improved upon in Year II. For Year III, in-class observations were made only twice each month. Any influence on the data of the frequent presence of observers in the classroom would show up by comparing Year II with Year III behavior in project classes.

A great deal of time and effort was spent throughout Year III disseminating information about Project Success Environment and developing means to export the success technique to new schools. However, these activities were tangential to the ongoing development and evaluation of the success technique itself and are not reported here.

METHOD

Subjects and Design

The subject population during the third year of the project consisted of 348 pupils who attended Project Success Environment classrooms and 246 randomly selected pupils who served as controls. All subjects were black and there were a few more females pupils than males (288 versus 230).

All pupils involved in the study attended a middle school and three of its feeder elementary schools located in east Atlanta. The community in which these schools are located is beset by many economic and social problems. Most of the families live in apartments or low rent housing. A survey conducted by Title I prior to the 72-73

school year indicated that from 35 to 74 per cent of the pupils attending these schools were from families earning less than $3,000 per year. As is typical of many pupils living in low-income communitites, the pupils attending these schools are behind in academic achievement, lack appropriate educational goals or aspirations, and as a consequence frequently become discipline problems in the school setting. Achievement data collected by the Atlanta Public Schools indicates that by the second grade of school these pupils are three months behind grade placement on achievement test scores and by the seventh grade they are two years behind.

Table 1 provides further characteristics of the teachers and pupils who participated in the study. Nineteen of the teachers were project teachers and 14 were control teachers. Ten of the teachers were white and twenty-three were black; all were female except four. As may be noted in Table 1, teachers had been in the project from one to three years. The previous classroom experience of these teachers ranged from one to thirteen years.

The pupils participating in the study attended grades one through six. Project pupils in grades one through five attended two different elementary schools. Control pupils for these grades were selected from a third school located in the same community and which had similar socio-economic characteristics. At the sixth grade level the project and control pupils attended the same middle school. All control pupils were randomly selected just prior to the beginning of Year III.

TABLE 1

EXPERIMENTAL DESIGN - YEAR III

Grade	Class	Experimental Classes: Teacher Sex	Teacher Race	Teacher Year of Entry	Per Cent of Two Year Pupils	Per Cent of Three Year Pupils	Control Classes: Teachers Sex	Teachers Race
1	A	F	B	3	0	0	F	B
	B	F	B	3	0	0	F	W
2	A	F	B	1	77	0	F	B
3	A	F	W	2	0	67	F	B
4	A	F	W	1	0	0	F	B
	B	F	W	1	0	44	F	B
	C	F	B	3	59	0		
	D	F	B	3	0	0		
5	A	F	B	2	0	54	F	B
	B	F	B	1	0	35	F	B
6	A	F	W	2	0	0	F	B
	B	F	B	2	0	0	F	B
	C	F	W	1	0	0	F	B
	D	M	W	1	0	0	F	B
	E	F	W	1	0	0	M	W
	F	F	B	3	0	0	M	B
	G	F	W	1	0	0		
	H	M	B	2	0	0		
	I	F	B	3	0	0		

Classrooms averaged from 25 to 30 pupils. In four of the project classes from 35 to 67 per cent of the pupils had been in the project for three consecutive years. In two other classes, 77 and 59 per cent respectively, had been in the project for two consecutive years. For all other pupils this was the first year in the Project Success classroom.

Project Staff

Management of Project Success Environment during its third year of operation was accomplished through the services of the projects' Director, two Coordinators, two Lead Teachers, an Evaluator, a Research Assistant, a Behavior Management Technician, and a Technical Writer.

The project Director oversaw and facilitated the ongoing work of the project in conjunction with the Superintendent, the Assistant Superintendent for Instruction, the Area V Superintendent, and project consultants from Emory University. The two Coordinators worked directly with the elementary and middle school principals in the ongoing supervision of project teachers and in obtaining necessary equipment, supplies, and instructional materials for project classrooms. The two Lead Teachers and the Behavior Management Technician worked directly with each of the project teachers to improve their use of the success technique. The project Evaluator and the Research Assistant, in conjunction with the project consultants, were responsible for the experimental design and evaluation of the program, including the monitoring of in-class observational data collection. The Technical

Writer was added to the staff at mid-year in order to create printed materials of high quality to aid the project in disseminating its concepts and past successes to the public and to interested school personnel.

All members of the project staff participated in the summer training both of new project teachers and of teachers in schools more loosely associated with the project. In addition, the entire staff devoted considerable effort during the latter part of the third year to developing means for exporting the success technique to other schools in Atlanta and throughout the state.

Treatment

During the first two years of operation, three principal components of the success technique evolved: a positive reinforcement system, a classroom arrangement, and a curriculum. The technique, as it had evolved during Year I and Year II, was continued during Year III. Because these three interacting components were applied concurrently so that no individual appraisal is feasible, they were evaluated as a single entity. The three principal components, as implemented during Year III, are described below.

Curriculum

The standard curriculum employed in the Atlanta Public Schools was modified slightly for use with the success technique. First, within each class the students were grouped according to reading ability, and curriculum materials were selected at levels appropriate to the three groups. Second, an attempt was made to subdivide the curriculum in each content area to create modules that could be

completed, evaluated, and reinforced daily. For example, children were given skill sheets providing daily practice in each subject area that permitted immediate evaluation, feedback, and reinforcement. In addition to the modified standard curriculum, the Sullivan Reading program was added at every grade level. This program also provided materials at several levels and opportunities for frequent evaluation and feedback.

The children in project classes often started the school day with a short task requiring only that they follow directions. Commercially available perceptual-motor sheets were used along with simple tracing, design copying, and visual discrimination tasks. These order tasks were designed to get the students involved early in the day with a simple task almost certain to be completed successfully.

Two types of diagnostic reading tests were used in project classes. In grades one, two, and three the Comprehensive Instructional Program (CIP) reading test was administered every six weeks. The CIP tests gave the teacher periodic informal evaluation of pupil strengths and weaknesses on twenty-four basic reading skills. The results of the tests were placed on a class reading sheet. This enabled the teacher to pinpoint the weaknesses of each pupil and to gear her instruction toward filling the gaps of specific pupils.

In grades four, five, and six the Stanford Diagnostic Reading Tests were administered twice a year. The results of these tests were placed on class record sheets which covered seven basic reading skills.

The coordinators and lead teachers assisted the project teachers by preparing prescription sheets which diagnosed the results of the tests and gave suggestions for procedures and materials to be used. They helped the teachers become more aware of what skills to strengthened and which pupils to help with specific skills.

Classroom Arrangement

A classroom arrangement, consisting of a mastery center for instruction and five academically oriented interest stations, served to structure the instructional program and concomitantly to free the teachers for more interaction with individual pupils and small groups. Within the mastery center the pupils were divided into three ability groups in which they received instruction and completed academic assignments. While one group received instruction and the second completed assigned tasks, the third group visited the various interest stations which were assigned to foster individual and small group exploratory behavior without direct teacher intervention. The five stations included a library station with books, magazines, and newspapers; an art station with a variety of paints, crayons, and other art materials; a communications station with a Language Master, phonograph, and tape recorder; an exploratory station with an assortmant of science materials keyed to the instructional program; and a games and puzzles station equipped primarily with academically related materials. The materials at the stations were changed or rotated among the classrooms at least weekly by the paraprofessional aides.

Reinforcement System

Since the beginning of the project, the success teachers have used positive reinforcement to improve student conduct and accelerate academic achievement. In addition to praise and other forms of social reinforcement, the teachers rely heavily upon a token system in which either checkmarks on Success Record Cards or tickets are dispensed in the elementary and middle-school classes respectively. The students can exchange their tokens for rewards. The elementary classes are self-contained and the elementary pupils are exposed to positive contingency management throughout each school day. The middle school classes, however, are taught by teams (three teachers per team) so that the pupils are exposed to the contingencies for approximately four hours daily during the mornings while they attend the basic classes taught by the project teachers -- reading, mathematics, social studies, and science. During the afternoons, the middle school pupils attend non-project exploratory classes, such as music, art, and home economics.

Throughout the first day of school (and for several days thereafter in some of the lower primary classes) immediate primary reinforcement (M & M's and hard candy) is paired with praise and token reinforcement contingent upon approximations of desired social conduct, including such behaviors as simply coming to school and sitting at a desk. Enough tokens are distributed within the first two days for every pupil to exchange them for a variety of back-up reinforcers, including

both inexpensive "fun" items and school supplies. During the initial two weeks of school, reinforcement is dispensed on a generally continuous and predictable basis, but, as the desired behaviors are gradually shaped, the tokens are dispensed on more intermittent, less predictable schedules.

In the project's third year, development and refinement of the several aspects of the reinforcement system were completed and implemented. Detailed descriptions of these "finished products" follow:

1. Classroom Rules

Before the inaugural day of the success technique, the success teacher determines several rules of student behavior that are appropriate to her classroom. Every success teacher establishes her own rules with three restrictions: They must be between three and five in number; They must be brief; They must be worded positively -- "Stay on Task" is worded positively, while "Do Not Bother Your Neighborhood" is worded negatively.

A classroom rule clearly states a behavior that the teacher desires in her class and will frequently and consistently reinforce. Here are a few examples of classroom rules that success teachers have used: Pay Attention; Work Hard, Stay on Task; Stay in Your Seat; Stay in Your Area; Raise Your Hand to Speak; Have the Necessary Tools for Work;

Follow Directions; Be on Time. The rules are prominently displayed in the classroom, and, initially, the teacher goes over them with her class every morning. As the students learn to follow the rules, the teacher repeats them less frequently but continues to praise and to reinforce students for following them.

The Project Success teacher uses her classroom rules as a guideline. If she concentrates on consistently and frequently reinforcing her students for following the rules, the teacher can generally ignore the other behaviors and create a reasonably happy and well-ordered class.

Initially, the teacher does not recognize any exceptions to her rules. This keeps the signals clear and unambiguous. Once the students begin to follow the rules regularly, the teacher may then introduce exceptions if she wishes. Thus, a rule such as "Stay in Your Seat" does not have to remain as rigid as it sounds. Exceptions to a rule are possible if the teacher clearly explains the exceptions to her students. For example, she might explain that they may now get up to sharpen their pencils, or to go to the bathroom, or to get a reference book at any time without her permission, if they will return quickly to their seats.

All the teachers who teach the same group of students must agree upon the same classroom rules. Consistency is a crucial aspect of a success environment.

When the success teacher reinforces a student for following a rule, she relates the student's performance to the rule. She is specific about behaviors that students show which constitutes paying attention or working hard. For example: "You watched the board all the time I was presenting the example. That's paying attention." This is called descriptive praise and is essential. Statements like -- "You're a good boy" or "You're so smart" are judgmental rather than descriptive and are undesirable. The teacher is telling the student that she approves of him, but the student may wonder why he's receiving such extravagant compliments. With descriptive praise he knows exactly what he's done that merits praise.

2. Ignore and praise

The single most important operating procedure of the technique is "ignore and praise." If a student is not working or is disrupting the class, the teacher focuses her attention on nearby students who are working well. She descriptively praises each of them for following a class rule, such as "Stay on Task," and possibly presents a token also. The teacher might say: "John, I see you've gotten six problems done already. That's good. That's staying on task. You've earned a token." In this way, she not only reinforces John for working, but she also prompts the correct behavior by the student who is not working and/or being disruptive.

The teacher then continues to watch the difficult student; she catches him following the rule and reinforces this behavior, which is incompatible with this disruption or inattention.

The teacher's descriptive praise of students who are following her class rules is always warm and genuine. However, she doesn't praise every student who is attentive every time she praises one of them. Rather the teacher administers praise unpreditably to a few students at a time who are following her classroom rules. She does this often, even if no one is off-task or disruptive. After giving an initial, brief explanation that reinforcement for following the rules will be unpredictable, the teacher generally ignores complaints from students who feel they've been overlooked. She doesn't want to reinforce complaining by giving attention to it. If the teacher reinforces with sufficient frequency, the students soon learn that following the rules will pay off. Initially, the teacher administers tokens and/or praises about once every minute, with one, two, or three students receiving reinforcement. After the students develop habits of following the rules, the frequency of reinforcement can be cut in half.

In a success classroom, criticism and particularly sarcasm are avoided; but, if the teacher consistently maintains a positive classroom atmosphere with frequent praise, then she may on occasion calmly and firmly remind a student

that he is not following a class rule. When a student is violently, dangerously disruptive or when a student continuously misbehaves so that he does not display any desired behavior that could be reinforced, then some form of punishment is appropriate. Punishment is discussed in detail below, but no form of punishment is likely to be effective for long if the classroom is not a positive environment where following the rules pays off.

3. Activity room

After the first few weeks of the school year, the use of tangible rewards (candy, toys, etc.) is phased out and the students trade their earned tokens for non-tangible reinforcers such as free time at an interest station, special privileges or duties in the classroom or throughout the school, and the opportunity to spend 20 to 30 minutes in an activity room.

There are activity rooms, supervised by project assistants and parents, available for all PSE students. With a large variety of activities available in the room -- e.g. pool table, make-up corner, hot wheels, doll house, record player, etc. -- there is usually something that every student will like. To insure that the rooms continue to be reinforcing, the available activities are periodically changed and occasional surprises are set up in the room.

The students feel that the activity room is their place. Particularly in the upper grades, the students are asked what they want in the room, what they will work for, and the project's staff tries to provide it. At the beginning of the year, when tangible rewards are being phased out, one of the first non-tangible rewards that a student can earn is the opportunity to help decorate the activity room. Every student takes some part in the preparation, and every student gets one free chance to go to the room briefly with his class on the day before the room is first opened as a reward for earned tokens.

4. Academic reinforcement

Conduct behavior that is appropriate in a class at the beginning of the school year remains appropriate throughout the year. Once an initial set of classroom rules of behavior is determined, the teacher can reinforce students for following the rules until they become strongly established as habits. On the other hand, appropriate academic behavior is always changing. It changes with the subject area and with the curriculum materials used; but, most importantly, it constantly changes as each student learns. Thus, the teacher cannot specify one set of appropriate academic behaviors to reinforce throughout the year. Every day, every period, every student needs to be reinforced for different behaviors. It is no simple

matter to develop and implement a reinforcement system that will dramatically improve academic performance. Nevertheless, there are basic procedures outlined below that any teacher can use to systematically reinforce academic performance, regardless of the subject area, the grade level, or the curriculum (if adaptions are made).

The teacher must do three things if she wishes to influence academic behavior:

1. Make sure the student tastes success
2. Always assign doable tasks
3. Evaluate and reinforce frequently and immediately

The first step is getting the student to taste reinforcement and success as a direct result of his own academic behavior. For students with academic histories of D's and F's, this is a critical step. To get a weak or difficult student to taste success, it is often useful initially to give extremely easy, short, academic exercises to complete.

The second step is to consistently provide each student with doable tasks -- work on his level that he can do after a little instruction from the teacher. Academic behavior must occur before the teacher can reinforce it, and, of course, it cannot occur if the student doesn't know how to do the task he is assigned.

As a third and last step, the teacher evaluates and reinforces correct academic behavior frequently and immediately

whenever possible. Evaluating performance immediately, before handing out reinforcement, is essential. The teacher does this in several ways: She goes to a student at work and quickly spot-checks a few items at random. If the items are right, reinforcement is given; if too many are wrong, feedback, encouragement, and a promise to return are offered. X'ing mistakes is an outlawed procedure. Alternatively, the teacher selects the first student finished to be a mini-teacher. The mini-teacher uses his own paper, which the teacher has first inspected, to correct the work of the other students. Free, after marking only one paper, the teacher comes by later, quickly glances at the checked papers, and administers appropriate reinforcement; or the mini-teacher himself can immediately reward good work.

5. Inhibition

The ignore and praise procedure, based upon clearly defined classroom rules of conduct with praise supplemented by a token reinforcement system is, in most cases, an effective modifier of conduct behavior in the classroom. However, when undesired behavior is either so intense that students or property are in physical danger or so frequent that there is no incompatible desired behavior to reinforce, then action more immediate and direct than "ignore and praise" is taken to change the behavior.

The kind of action that is approriate is usually called punishment. Within Project Success Environment we are a little hesitant to use the word, "punishment," because it has connotations of retribution and revenge. When we use inhibition (punishment) procedures, the purpose is to inhibit or reduce an undesired behavior. Righteous indignation and anger are not appropriate. In order for inhibition to be effective, it is imperative that the teacher carry out established procedures in a calm, impersonal, matter-of-fact manner. Not only is an angry teacher a model for aggression, but she is also likely to be a reinforcer for undesired behavior if her students enjoy eliciting and viewing her wrath. And, of course, anger indicates lack of command in the classroom.

In many schools, children who are sent from their rooms for disciplinary reasons often end up waiting in the office and many times are used as messengers by the secretary or principal. Teachers, also, often rid themselves of a disruptive student by having him stand in the hall or sending him out of the room on errands. These practices should be discouraged forcefully. A child's "ticket" to special priviledge must not be misbehavior in class.

Misbehavior is either ignored or inhibited from occuring in the future by unpleasant consequences. Insuring that

one of these two actions is consistently taken when unwanted behavior occurs requires two things: (1) cooperation among teachers and cooperation with teachers by other members of the school staff; and (2) a clearly established set of inhibition procedures beginning with ignore and praise in the classroom and including the procedures discussed below.

When unwanted behavior is very frequent or very intense, the teacher's first option is to give the child one warning signal and then put him in time out if the behavior persists. The warning signal always preceeds time out so that it can be used most of the time without the need for time out. When time out is ineffective and the unwanted behavior continues, then the next option is to use a severe token fine. The use of both these procedures is always accompanied by the use of reinforcement of behaviors incompatible with the unwanted behavior.

The following are examples of two different time-out procedures that are used in several Project Success Environment classes:

Time Out Procedure I. As the teacher walks around the room giving praise and checkmarks to those children who are following the class rules, she stops at the desk of a child, who is constantly breaking a rule by

staying out of his seat, and casually picks up his Success Record Card. She keeps the card long enough for the child to miss out on a few checkmarks and only returns it when he is in his seat. Removing the card, or taking away any item that the student has to have in order to receive token reinforcement, is particularly appropriate and effective when the offense is out-of-seat behavior. The time-out from possible reinforcement is a direct consequence in that if the child is out of his seat, any number of things can happen to his possessions. In this situation, the teacher may want to issue a warning signal to the whole class, saying: "If you remain out of your seat (without my permission) you will lose your card and will have to earn it back with good behavior."

Time Out Procedure II. After a child has been warned once and still persists in his misbehavior, he is placed in a time-out "room." (Ideally this is a small room adjoining the classroom that contains only a light and a chair. But usually it is an empty corner of the classroom in which the student is isolated by means of high partitions.) The child is required to sit in the "room" until he is quiet for a predetermined number of minutes (up to 15 minutes depending on grade level), and then he is allowed to return to the class.

No time-out procedure will be effective unless a basically reinforcing environment exists in the classroom.

When time out does not work, and there are inevitably a few hard core cases, a severe fine is the next inhibition procedure. Project Success Environment teachers are understandably reluctant to take tokens away from students once they have earned them. In fact, the only systematic use of fines that has been done has been done by a principal working with students referred to him when time out was ineffective. This principal reports success in reducing the number of referrals.

Summer Training

The training of new teachers for Year III was accomplished in a summer workshop much the same as for Year II (as described in the End-of-Budget Period Report FY 1972). Briefly, training consisted of three weeks (half day sessions) devoted to: (a) the theory behind positive contingency management; (b) practicum applications of the theory; and (c) guidance with curriculum. Two innovations were incorporated into the summer training for Year III. First, teachers were placed on a criterion referenced contract to read theory related materials. Teachers received extra pay (2 hours/day) if they read assigned units in Becker, Engelman, and Thomas 's Teaching A Course in Applied Psychology and passed (with 100 per cent accuracy) a test based upon these materials. Teachers failing to meet criterion could retake the test later in the

workshop and if successful earn the extra pay. All teachers passed all tests before the end of the workshop and most were prepared and passed the tests on the first attempt. The second innovation involved some use of modeling and role playing. Project staff and experienced project teachers would demonstrate in a role playing situation a particular concept. Teacher trainees were then asked to analyze and discuss the demonstration. As for Year II, experienced teachers participated in the training of new teachers. The experienced teachers helped present theory, led small discussion groups on practical applications, and served as demonstrators of the technique in live classrooms. All new teachers also practiced the technique in live classrooms under the supervison of project staff and experienced teachers.

Measures of Pupil Variables

The effects of the success technique on the project pupils were measured in two general areas: classroom behavior and academic achievement.

Classroom Behavior

Pupil behavior in the classroom, or conduct, was assessed by means of systematic observations conducted in select experimental (project) and control classes. Observations were made in each class once every two weeks between September and April, except during holiday periods. Trained paraprofessional observers collected data for attention behavior (i.e. per cent of students attending to assigned academic tasks) and disruptive behavior.

Disruption. During 15 minutes, the data-gatherer continuously scanned the entire class for instances of disruptive pupil behavior. In general, disruption encompassed any unsolicited pupil behavior serving to distract other pupils from academic tasks: talking or being out of seat without permission; generating loud noises; and disturbing other pupils either verbally, or by means of physical contact, or by handling another pupil's possessions. A single pupil could not be observed for disruption more often than once every ten seconds. The criterion measure was the average number of disruptions per pupil per 15 minutes, obtained by dividing the total number of disruptions recorded by the number of pupils present during the observation session.

Attention. The attentive behavior of the pupils in a class was observed while they were assigned academic tasks. Each pupil was observed separately one time only for 20 seconds. The data-gatherer recorded the number of seconds during when the pupil was off-task; i.e., during each 20-second interval the behavior of one pupil was observed and the amount of time apparently devoted to other than academic tasks was recorded. Each pupil observed was classified as INVOLVED (0-5 seconds off task), MEDIUM INVOLVED (6-15 seconds off-task), or UNINVOLVED (16-20 seconds off-task). The criterion measure was the percentage of time on-task for the entire class, calculated by adding the number of pupils classified as INVOLVED to one-half of the number classified as MEDIUM INVOLVED,

then dividing the sum by the total number of pupils observed, and multiplying the quotient by 100.

The measures of disruptive and attentive behavior used in Year III contained a few refinements but were essentially equivalent to those utilized during Year II of the project.

Academic Achievement

The California Achievement Tests (CAT) in reading and arithmetic were given at all grade levels to measure academic achievement. In addition, the Comprehensive Instructional Program Diagnostic Test (CIP) were given to grades one, two, and three. The CIP tests were developed locally by the Atlanta Public School System to assess students' acquisition of specific reading skills. In addition to its use as a diagnostic instrument (see Curriculum, page 44 of this report), the CIP was administered to all project and control students in the first three grades to determine gains made in reading skills.

Measures of Teacher Behavior

During the period from September, 1972, through April, 1973, teacher behavior was monitored in the classroom to determine the extent to which the success technique was being applied. The frequency of teacher reinforcement and punishment was observed and recorded by trained paraprofessionals in select experimental and control classes once every two weeks, except during holidays.

The average number of positive reinforcements administered per student in a 15-minute period constituted a criterion measure, which was obtained by dividing the total number of reinforcements

administered by the number of pupils present during the observation session. A second criterion measure consisted of the total number of instances of punishment.

Teacher behavior which was recorded as positive reinforcement included verbal praise, positive physical contact, granting of privileges, and administration of tangible rewards such as candy or tokens (which were administered only in the experimental classes). Punishment included criticism stated explicity or implicity through threats of consequences, voice tone, or facial expression, aversive physical contact with pupils, withdrawal of pupil privileges, and isolation of pupils.

The measures of reinforcement and punishment in Year III contained a few refinements but were essentially equivalent to those utilized during Year II of the project.

Other Measures

Four locally developed questionnaires were administered as a less formal means of evaluation. The parents of project pupils, the principals of project schools, the project teachers, and the project pupils, themselves, were requested to respond to anonymous questionnaires concerning their reactions to the project.

Testing Procedures

In-Class Observations

Five black, female, paraprofessional data-gatherers, trained by the project evaluator, systematically observed teacher and pupil behavior. Four of these five observers had collected similar data

during Year II of the project. Throughout the school year, in-class observational data were collected unpredictably once every two weeks.

Observation procedures were refined during Year III so that the observation period lasted only 30 minutes, instead of the 45 minutes required using the Year II procedure. This reduction in time was accomplished by observing and recording the frequency of student disruption and the frequency of teacher reinforcement and punishment all at the same time. The observer began recording reinforcement, punishment, and disruption for seven and one-half minutes, switched to attention for approximately 15 minutes, and then completed the observation of reinforcement, punishment and disruption for another seven and one-half minutes. The observation was split in order to obtain a more typical sample of behavior. There was no reduction in reliability as a result of these procedural refinements.

Observation periods were varied from morning to afternoon. Class time not devoted to academic activity was not appropriate for observation. Further, if for some reason -- such as a principal's voice over the intercom or the arrival of visitors into the classroom -- academic activity was interrupted, the observation stopped until academic behavior was again the appropriate behavior for the class.

While in the class for the purpose of obtaining data, observers were <u>not</u> to interact with the class or the teacher any more than

was absolutely necessary. It was desirable that the class come to ignore the observer and take her presence for granted.

Inter-rater Reliability. Reliability coefficients were obtained for the five data-gatherers by comparing the observations of each data-gatherer with the observations made by each of the other data-gatherers' and with the observations made by the Project Evaluator. The coefficients, based on 10 to 14 common observations, are presented below in Table 2. The majority of the coefficients are above .80. The median r's for reinforcement, punishment, disruption, and attention respectively are .97, .65, .96, .82. Agreement concerning punishment was low because there was little punishment to observe.

Achievement Testing

California Achievement Tests (CAT). All project pupils in grades 2-5 were given the California Achievement Tests (CAT) in Reading and Arithmetic as a pretest in September and as a posttest in April. In addition, pupils were randomly selected from each grade level (2-5) at the control school and were also given the CAT as a pre- and posttest. The random sample of control pupils was approximately two-thirds as large as the number of project pupils tested. One or two of the control teachers were chosen at each grade level to administer the tests.

At the middle school (sixth grade) a random sample of both project and control pupils was selected and given the CAT as a pre- and posttest in September and April respectively.

TABLE 2

IN-CLASS OBSERVATIONS INTER-RATER RELIABILITY 1972-73
r's based on 10-14 common observations

A

TEACHER REINFORCEMENT

Observer		A	B	C	D	E	F
(Persons)	A*	1	.97	.97	.97	.96	.96
(Ware)	B		1	.96	.96	.94	.96
(Thomas)	C			1	.97	.99	.99
(Chaney)	D				1	.96	.98
(Williams)	E					1	.99
(Ramsey)	F						1

B

TEACHER PUNISHMENT

Observer	A	B	C	D	E	F
A*	1	.30	.71	.62	.71	.70
B		1	.65	.82	.65	.53
C			11.00		.65	.54
D				1	.56	.41
E					1	.54
F						1

C

STUDENT DISRUPTION

Observer		A	B	C	D	E	F
	A*	1	.96	.98	.97	.94	.95
	B		1	.97	.99	.93	.88
	C			1	.97	.98	.94
	D				1	.91	.92
	E					1	.91
	F						1

D

STUDENT ATTENTION

Observer	A	B	C	D	E	F
A*	1	.78	.74	.78	.87	.83
B		1	.79	.90	.92	.82
C			1	.82	.84	.70
D				1	.80	.72
E					1	.88
F						1

* Observer A was the project Evaluator.

Again the control sample was approximately two-thirds as large as the project sample.

First grade pupils, both project and control, received only the posttest on the CAT in April. Only the posttest was given since entering first grade pupils do not generally have the skills necessary for minimum performance on an achievement test. The number of first grade pupils tested was approximately the same for both the project and the controls.

The following levels of the CAT were given to each of the above mentioned levels:

Lower primary - First and second grades

Upper primary - Third and fourth grades

Elementary - Fifth and sixth grades

Other Measures. Informal questionnaires were devised to determine the views of teachers, principals, pupils and their parents to Project Success. All questionnaires were administered anonymously. The principals and teachers were given their questionnaires by the Research Assistant and were asked to return them either to the Research Assistant or to one of the project's Coordinators. The pupils were given their questionnaires by the two project Coordinators and the two Lead Teachers. These questionnaires were administered in the classroom setting and the questions were read out loud to facilitate understanding. In addition, each pupil was given a questionnaire to take home to his parents. The pupils were reinforced with candy for returning their parents' questionnaire.

RESULTS AND DISCUSSION

Effects of the Experimental Treatment on the Project Pupils In-Class Pupil Behavior

In Fiscal years I and II, project staff demonstrated in systematic research that the success technique altered the behavior of project pupils in the classroom relative to their own prior behavior (Appendix D, End-of-Budget Period Report, FY 1972) and the behavior of appropriate comparison classes (Appendix A, End-of-Budget Period Reports FY 71 and FY 72). Project pupils were fifty per cent less disruptive than comparison pupils and their percentage of time involved in assigned academic activities reached about 88 per cent relative to 55-65 per cent involvement for controls. These differences were maintained throughout both school years.

Figure 1 presents the in-class observations of project pupils at middle and elementary levels for Year III. Figure 1 also includes data for elementary controls collected in Year II and middle school controls collected in Year III. It is clear from the curves in Figure 1 that project pupils continued to maintain a reduced level of disruption and a high percentage of time on assigned tasks. The data for Year III, then, appear to be entirely consistent with the findings from Years I and II. Since these findings were firmly established in Years I and II, the focus for Year III concerned

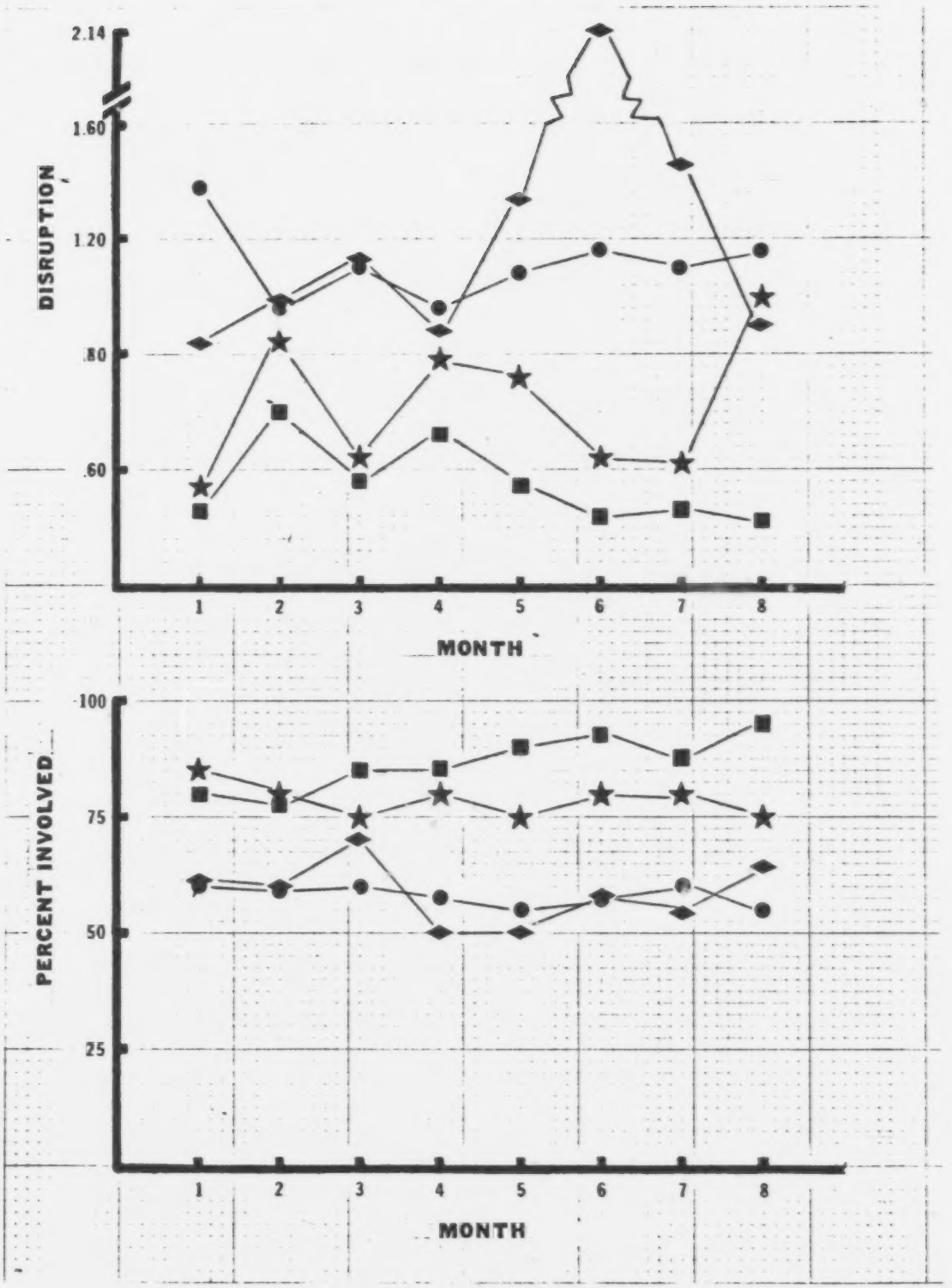

Figure 1. Mean frequency of disruptions and mean per cent involved for Year III middle school project (■) and control (◆) pupils for Year III elementary project pupils (★) and Year II elementary control pupils (●).

other hypotheses that are discussed below. No statistical analyses were run on the data presented in Figure 1.

Project staff attempted in Year III to seek answers to two additional questions concerning in-class behavior. First, it is possible that the results obtained for Years I and II were caused in part by the fact that observations were frequent, occuring two to four times per week in each class. In order to provide a check on this possibility, project teachers were observed less frequently in Year III. Observers collected data on project classes about twice a month in Year III. If less frequent observations have little or no effect, then the in-class behavior of pupils during Year III should be comparable to the behavior of pupils in Year II. The mean number of disruptions per student and mean per cent time on task as a function of Year II versus Year III and middle versus elementary level are presented in Table 3 for eleven teachers participating in the project in the second and third year. Means for elementary and middle school classes are presented separately. The elementary-level data presented in Table 3 represent means for six classes with three blocks of data collected per class; one block in October, one in January, and one in May. Each block is an average for three to four 45 minute observation periods. The middle-level data represent means for five classes with eight blocks of data per class (one block each month of the school year).

TABLE 3

MEAN DISRUPTIONS AND MEAN PER CENT INVOVLED
FOR PUPILS IN PROJECT CLASSES IN YEAR II
AND YEAR III BY GRADE LEVEL

	Mean Disruptions	Mean Per Cent Involved
Elementary Level		
Year II	.31	.83
Year III	.40	.79
Middle Level		
Year II	.29	.90
Year III	.35	.87

The elementary and middle level data were analyzed separately by analysis of variance with year and blocks as independent variables. At the elementary level, Year II disruptions were slightly lower than for Year III but this difference was not significant $F\ (1,5) = 2.64$, ns. Year II pupils were also slightly more involved in assigned tasks. However, this difference also failed to reach significance, $F\ (1,5) = 1.45$, ns. Per cent involved was low at the beginning of Year II (79 per cent) and increased throughout the year (82 per cent). However, for Year III, per cent involved was high at the beginning of the year (85 per cent) and dropped off slightly across the year (79 per cent), $F\ (2,10) = 9.47$, $p < .01$.

At the middle school level, the overall level of disruptions in Year II was also lower than for Year III $F\ (1,5) = 3.45$, $p < .05$. This difference was primarily a result of differences occuring

early each year. Disruptions in the first few blocks of Year III were reliably higher than for these same blocks in Year II. However, by the fifth block, Year III disruption dropped to the level of Year II and subsequently to an even lower level than for Year II, $F\ (7,28) = 2.88$, $p < .05$.

For per cent on-task at the middle level, there was a reliable difference between Year II and Year III, $F\ (1,4) = 6.40$, $p < .10$. Pupils were, on the average, on task more often in Year II. However, the advantage for Year II occured primarily during the first few months. By the fifth block, per cent on task for Year III was higher than for Year II and remained equal to or higher than for Year II for the remainder of the year, $F\ (7,28) = 2.54$, $p < .05$.

These data, taken as a whole, indicate that pupil behavior during the third year was as good as pupil behavior for Year II, particularly for the latter half of the school year. This suggests that one may substantially reduce the absolute number of in-class observations without adversely affecting the effectiveness of the technique.

A second question addressed in Year III was to determine if inexperienced teachers can operate as effectively as experienced teachers. In order to examine this question, the behavior of pupils in classes with experienced teachers (at least one year

in the project) were compared to pupil behavior in classes with inexperienced teachers. These comparisons are presented in Table 4 for disruption and per cent involved at both middle and elementary levels.

TABLE 4

MEAN DISRUPTIONS AND MEAN PER CENT INVOLVED FOR PUPILS IN PROJECT CLASSES CONDUCTED BY EXPERIENCED AND INEXPERIENCED TEACHERS BY GRADE LEVEL

		Disruptions/ Student	Per Cent Involved
Elementary Level	Experienced	0.71	0.78
	First Year	0.38	0.89
Middle Level	Experienced	0.35	0.89
	First Year	1.44	0.68

The means in Table 4 were analyzed by analysis of variance with Experience (2), Grade Level (2), and Block (8) as factors. A separate analysis was computed on disruption and per cent involved. As is evident in Table 4, pupils in the classes of inexperienced teachers at the elementary level did as well as or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out performed pupils in the classes of inexperienced teachers.

These two observations are reflected in the interactions of grade and experience for both disruptions, $F\ (1,11) = 42.97$, $p < .01$, and per cent involved, $F\ (1,11) = 15.12$, $p < .05$. This result may be important. Project staff have observed that it is more difficult to implement the success technique with older children. By the time a child reaches sixth grade, he has had extended experience with school. If this experience has been predominantly negative rather than positive, considerable time would be required to overcome these expectations. Furthermore, the teachers of older children may need more time and experience to apply the success technique effectively to children with extended histories of failures.

In-Class Observations -- Teacher Behavior

Figure 2 presents the data on frequency of reinforcement and punishment delivered by project teachers throughout Year III for middle and elementary schools. Figure 2 also graphs these data for elementary controls from Year II and for middle school controls from Year III. It is evident in Figure 2 that project teachers in Year III reinforced with high frequency and punished with low frequency relative to controls. These data are consistent with in-class behavior of project teachers for Years I and II.

Table 5 presents data comparing teacher behavior in Year II to their behavior in Year III. These data were analyzed to

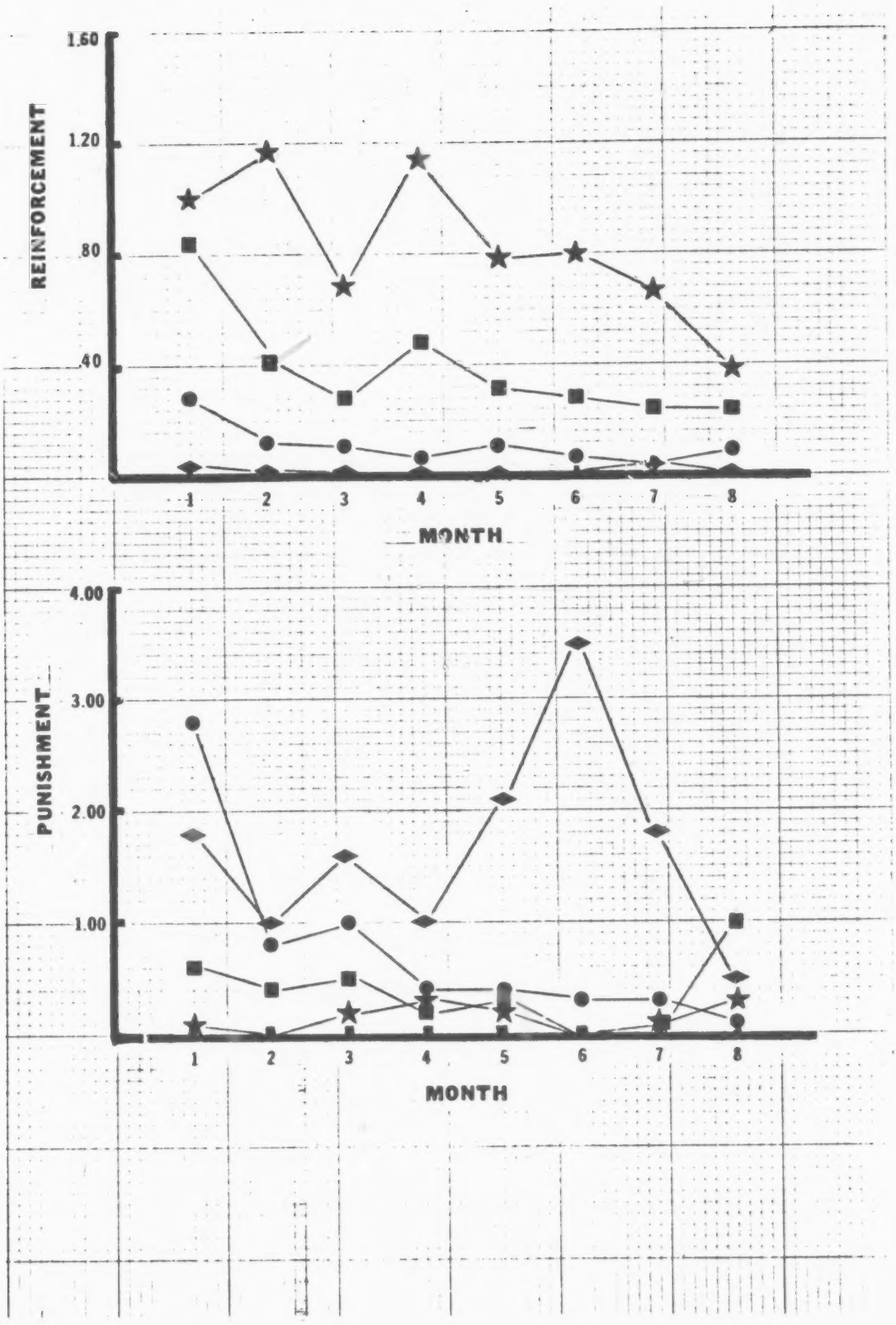

Figure 2. Mean frequency of reinforcements/student and mean frequency of punishment for Year III middle school project (■) and control (◆) teachers and for Year III elementary project teachers (★) and Year II elementary control teacher (●).

determine if a reduction in the number of observations (from twice a week in Year II to twice a month in Year III) affected teacher performance. Separate analyses of variance were run on reinforcement and punishment at the elementary and middle levels.

TABLE 5

MEAN REINFORCEMENTS/STUDENT AND MEAN TOTAL PUNISHMENTS DELIVERED BY PROJECT TEACHERS DURING YEAR II AND YEAR III BY GRADE LEVEL

		Reinforcements/ Student	Total Punishments
Elementary Level	Year II	1.55	0.31
	Year III	0.78	0.11
Middle Level	Year II	0.65	0.42
	Year III	0.39	0.39

At both elementary and middle levels, teachers reinforced more frequently in Year II than Year III, F (1,5) = 9.67, $p < .05$, F (1,4) = 18.08, $p < .10$, respectively. Teachers also punished more frequently in Year II than Year III at both elementary and middle levels but these differences were not reliable, F (1,4) = .49, ns, respectively. These data suggest that teacher behavior was altered somewhat by less frequent observation, in particular, they delivered reinforcement about one-half as

often as with frequent observation. It is important to note, however, that project teachers continued to reinforce at a much higher rate than they punished and that pupil behavior in Year III (see pupil behavior above) did not change from Year II to Year III.

A comparison of reinforcement and punishment frequency was also made between experienced and inexperienced teachers during Year III. These results are presented in Table 6. Inexperienced teachers at both elementary and middle levels reinforced more frequently than experienced teachers.

TABLE 6

MEAN REINFORCEMENT PER STUDENT AND MEAN TOTAL PUNISHMENTS DELIVERED BY EXPERIENCED AND INEXPERIENCED TEACHERS DURING YEAR III BY GRADE LEVEL

		Reinforcements/ Student		Total Punishments
Elementary Level	Experienced		0.90	0.15
	Inexperienced	1.13	1.13	0.15
Middle Level	Experienced		0.39	0.39
	Inexperienced		0.74	0.61

However, this difference was not statistically reliable, F (1,11) = 2.62, ns. It is also clear in Table 6 that overall, elementary teachers reinforced more frequently than middle school teachers, F (1,11) = 5.14, $p < .05$. Experienced and inexperienced teachers did not differ overall

in the frequency of punishment delivered, F (1,11) = 0.62, ns. However, inexperienced teachers tended to punish more than experienced teachers during the latter part of the year, F (7,77) = 3.01, $p < .05$. Thus experienced and inexperienced teachers differed little in their delivery of reinforcement or punishment.

Academic Achievement

During Year III of Project Success Environment, emphasis continued to be placed on the reinforcement of academic achievement. Since significant academic gains had been obtained during Year II of the project's operation, it was anticipated that the project would again make academic gains. Thus, it was hypothesized that the gains made by project pupils would again exceed the gains made by control pupils over the same period of time. Consequently, gain scores made on the California Achievement Tests (CAT) between September and April were obtained for both project and control pupils. The gain scores in reading and arithmetic made by project and control pupils were compared for statistically significant differences. Performance of project and control pupils in grades one through three on the Comprehensive Instructional Program Diagnostic Tests (CIP) was also compared.

CAT Reading Achievement. The mean pretest (September), posttest (April) and gain (posttest minus pretest) scores for reading are reported in Table 7 for project and control pupils

in grades two through six. The gains made in reading by project pupils exceeded the gains made by control pupils in every grade except the third grade. In all instances (except the third grade) the project pupils gained at least one month for every month in the project.

TABLE 7

TOTAL READING
CALIFORNIA ACHIEVEMENT TESTS

		Project				Control		
Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
First	45	--	1.8	0.8	33	--	1.4	0.4
Second	28	2.0	2.9	0.9	39	1.5	2.1	0.5
Third	22	2.8	3.1	0.3	14	2.5	3.0	0.5
Fourth	95	3.2	3.9	0.7	35	3.4	3.7	0.3
Fifth	40	4.0	4.7	0.7	39	3.7	4.1	0.4
Sixth	76	4.4	5.1	0.7	51	3.7	4.2	0.5
Mean				0.70				0.46

A three-way analysis of variance (Treatment x Grade x Sex) performed on the gain scores indicated that the gains made by the project pupils were highly significant, $F\ (1,419)=10.17$, $p < .01$. In addition, a significant grade and a significant sex effect were also found. This indicates that some grades (for both project and control classes) gained more than other grades and that females (in both project and control classes) gained more than males.

The total reading test scores on which the analysis of variance was performed is composed of two subtests: vocabulary and comprehension. The total reading score is a composite of these two subtest scores. Consequently, the total reading score reflects the pupils composite achievement in both vocabulary and comprehension.

First grade pupils received the CAT reading achievement test in April only. A pretest was not given since entering first grade pupils are generally unable to read. Consequently, a comparison was made between the mean posttest scores made by the project and control pupils.

Table 7 also presents the mean posttest reading scores for first grade project and control pupils. As may be seen, the mean grade equivalent in reading for project pupils was 1.8 as compared to the mean of 1.4 for control pupils. An analysis of variance (Treatment x Sex) indicated that this difference in posttest scores was highly significant $F\ (1,74) = 11.12$, $P < .01$. Thus, after completing the first grade, project pupils were significantly more advanced in reading achievement than a comparable group of control pupils.

CAT Arithmetic Achievement. The mean grade equivalent scores made in arithmetic on the CAT pretest and posttest, as well as the mean gains are presented in Table 8 for grades two

through six. Project pupils gained significantly more in arithmetic than control pupils at all grade levels except the second grade. Again, the project classes gained at least one month for each month in the project with one exception (the second grade).

TABLE 8

TOTAL ARITHMETIC
CALIFORNIA ACHIEVEMENT TESTS

		Project				Control		
Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
First	45	--	1.7	0.7	33	--	1.6	0.6
Second	28	2.0	2.3	0.3	39	1.5	1.9	0.4
Third	22	2.7	3.6	0.9	14	2.5	3.1	0.6
Fourth	95	3.4	4.2	0.8	35	3.3	3.8	0.5
Fifth	40	4.6	5.3	0.7	39	4.3	4.7	0.4
Sixth	76	4.9	5.6	0.7	51	4.7	5.3	0.6
Mean				0.73				0.52

An analysis of variance (Treatment x Grade x Sex) performed on the gain scores indicated that these differences in arithmetic gains were also statistically significant, $F\ (1,419) = 8.71$, $p < .01$. In addition, grade and sex effects were also significant indicating again that some grades gained more than others and females gained more than males.

Since the total arithmetic score is a composite of the arithmetic fundamentals and arithmetic reasoning subtest scores, this score reflects the pupils' composite achievement in both arithmetic fundamentals and reasoning.

As in reading, the first grade pupils received only the arithmetic posttest on the CAT. The mean posttest grade equivalents are also presented in Table 8. As may be seen, project pupils had a mean posttest grade equivalent of 1.7 as compared to the 1.6 made by the controls. A two-way analysis of variance (Treatment x Sex) indicated that this difference was not statistically significant, $F\ (1,74) = 1.05$, ns.

In summary, Project Success Environment was successful in promoting academic achievement in Year III of its operation just as it had been in Year II. Project pupils, in general, gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During Year II of the project's operation project pupils gained an average of 6.9 months on the California Achievement Test (CAT) in reading compared to the 3.4 months gained by controls. During Year II project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. Arithmetic gains made during Year III also substantiate the findings of Year II. In arithmetic project pupils gained 6.5 months during Year II compared to the 3.9 months gained by controls. During Year III project pupils gained an average of 7.3 months in arithmetic achievement

while the controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II and further substantiates the hypothesis that Project Success does, in fact, have a beneficial effect on academic achievement for both elementary and middle school pupils.

Comprehensive Instructional Program (CIP) Diagnostic Tests. The CIP diagnostic tests were also used to measure and compare the academic performance of project and control pupils in grades one, two, and three. These tests are administered city-wide to pupils in the first three grades to provide diagnostic information regarding 24 different reading skills. The pretest performance used consisted of the number of tests passed (according to the criterion of ninety per cent correct responses) in October. The posttest performance consisted of the number of tests passed (according to the same criterion) in April. Gain scores were obtained by subtracting the number of tests passed in September from the number passed in April.

Table 9 presents the mean gains in number of diagnostic tests passed by project and control pupils at each of the three grade levels. Although the project pupils passed more tests at the first and second grade levels, the overall gains made by the project pupils were not statistically greater than the gains made by control pupils, $F\ (1,160) = .13$, ns.

TABLE 9

MEAN GAINS IN COMPREHENSIVE INSTRUCTIONAL PROGRAM'S (CIP) DIAGNOSTIC TESTS PASSED BETWEEN OCTOBER AND APRIL

Grade	N	Project	N	Control
1	44	7.1	28	6.8
2	26	6.8	37	6.6
3	17	4.9	20	5.2

Other Measures

Pupil Questionnaires

Elementary pupils. One-hundred-and-ninety-eight elementary school project pupils completed all or portions of the attached questionnaire (see Table 10). Most of the elementary pupils (91 per cent) indicated that they would like to be in a project class again. Nearly all of the pupils indicated that they liked school and the things associated with school -- reading group (77 per cent), arithmetic (84 per cent), teacher (94 per cent), and classmates (94 per cent) --and that they felt positive towards the project's reinforcement systems -- rewards (94 per cent), checkmarks (93 per cent). However, a large proportion of the elementary school students indicated that they would work as hard if they weren't in a project classroom (88 per cent). While the number of students was small, it is interesting to note that

TABLE 10

PROJECT SUCCESS ENVIRONMENT
EVALUATION BY PROJECT PUPILS
ELEMENTARY SCHOOL

1. What grade are you in?_____

2. Would you like to be in a Project Success class next year? 182 Yes 16 No

3. Would you work as hard if you were not in a Project Success class? 176 Yes 22 No

4. Please check the things you liked about school this year.

Rewards	188
Interest stations	170
Tickets or checkmarks	186
Teacher	187
Classmates	185
Activity room	188
Trips	191
Reading group	154
Getting sent to the principal	22
Giving the teacher a hard time	30
Arithmetic	167

5. Please check the things you did not like about school this year.

Rewards	12
Interest stations	79
Tickets or checkmarks	13
Teacher	21
Classmates	16
Activity room	11
Trips	10
Reading group	30
Getting sent to the principal	103
Giving the teacher a hard time	94
Arithmetic	27

6. Write down three things you did to earn checkmarks.

7. What did your teacher do when someone in the class was bad?

8. What would you like to have changed in school?

some students felt positive about getting sent to the principal (11 per cent) and giving the teacher a hard time (15 per cent).

The responses to item 6 ("Write down three things you did to earn checkmarks") indicate that the children were indeed aware of what the technique asked them to do -- "raise your hand", "do your work", "being quiet", "make a good grade", "going by the rules", "answer questions". The pupils responses to item 7 ("What did your teacher do when someone in the class was bad") were disappointing. It had been expected that the students would respond that the teacher ignored their disruptive behavior. However, the answers were mostly statements like: "she takes up your card," or "she won't let you have P.E." A few statements suggest that occasionally teachers reverted to more traditional methods of inhibiting undesirable behaviors ("hit you", "send to office"). In retrospect, it is not very surprising that the pupils did not report that the teacher ignored inappropriate behavior since to the child this technique may just be too subtle for him to identify. A pot pourri of responses were given to item 9 ("what would you like to have changed in school"). These included" "everythin"; "my desk"; "nothing"; and "the lunch."

Middle School Pupils. In general the responses made by the middle school pupils to the questionnaire followed the same patterns as those made by the elementary pupils (see Table 11).

TABLE 11

PROJECT SUCCESS ENVIRONMENT
EVALUATION BY PROJECT PUPILS
MIDDLE SCHOOL

1. What is a Project Success classroom?

2. Did you have fund in school this year? Yes 146 No 47

3. Would you work as hard if you were not in a Project Success class?
Yes 146 No 44

4. Please check the things you liked about school this year?

Rewards	173
Interest stations	130
Tickets or checkmarks	162
Teacher	116
Activity room	172
Classwork	109
Trips	158
Making fun of the teacher	180
Cutting class	2
Shooting rubber bands	3
Other	7

5. Please check the things you did not like about school this year?

Rewards	22
Interest stations	39
Tickets or checkmarks	24
Teacher	71
Activity room	23
Classwork	64
Trips	20
Homework	100
Getting sent to the principal	135
Other	63

6. What would you like to have changed in school?

7. Was your teacher mean or nice to you and your class this year?
Mean 58 Nice 131

8. Did your teacher yell at you this year? No 43 A little 124 A lot 46

9. Write down three things you did to earn checkmarks.

10. What did your teacher do when someone in the class was bad?

Again a majority of the pupils indicated that they enjoyed school in general -- fun in school (75 per cent), teacher (60 per cent), classwork (56 per cent) -- and nearly all indicated that they felt positive towards the project's reward system.

Items 1 and 9 on the questionnaire were inserted to assess whether the students were aware of the differences between their project class and other classes. The responses given by the children indicated varying amounts of awareness but, in general, they indicated a surprisingly high level of awareness of the objectives of the success technique. A number of children focused on the concrete aspect of the reinforcement system, i.e. the tickets, and the activity room. Moreover, many were aware that tickets were earned and that appropriate behaviors earned the tickets. In some sense the students' awareness of the objectives of the reinforcement system can be taken as an indication of that system's success. Items 7 and 8, which direct questions concerning the student's perception of his teacher's behavior, indicated that, on the whole, the students held a positive view towards the project teachers.

Conclusions:

Taking the elementary and middle school pupils together, the responses they made to the questionnaire were both enlightening and encouraging. Both groups indicated that they enjoyed being

part of a success environment and an overwhelming percentage of the students indicated that the rewards offered by the system were effective incentives.

The most intriguing results, however, concerned the students' awareness of the reinforcement contingencies employed by the success technique. A large number of both elementary and middle school pupils revealed that they were aware of the relationship between certain behaviors and the rewards obtainable by performing these behaviors. This awareness indicates that the success teachers clearly presented the contingencies to their students and then reinforced the desired behavior consistently.

It is interesting to speculate on the possibilities for future study for student awareness of contingencies. For example, it may be found that when children can verbalize what they need to do in order to earn reinforcement they may behave more frequently in a manner that leads to their reinforcement. There may, in other words, be a positive correlation between the child's awareness of what the system has asked (and reinforced) of him and how well, or how often, he does it.

Teacher Questionnaire

Fourteen of the nineteen project teachers completed all or portions of the attached questionnaire (see Table 12). The following summary statements are based upon the replies of these fourteen respondents.

TABLE 12

PROJECT SUCCESS ENVIRONMENT
Evaluation by Project Teachers

We need your opinions about the impact of the success technique on your pupils, so that we can refine the technique to increase its effectiveness. Please respond to the following questions by checking the answers that seem most appropriate to you. Please do not put your name on this questionnaire.

	Definitely Yes	Generally Yes	Neutral or No Effect	Generally No	Definitely No
1. Do you feel that the program has been detrimental to your students?				4	10
2. Do you think tangible rewards are necessary for program implementation after the first week or so of school?	4	1		7	1
3. Do you feel that the activity room is a valuable component of the program?	4	8	1		1
4. Do your pupils respond to activity reinforcers?	3	9	1		
5. Do you feel that the activity reinforcers should be more academically oriented?	6	3	3	1	
6. Have the interest stations been a valuable component of the program?	5	2	2	5	
7. Do you believe your attempts to reward "good" pupils and ignore misbehaving pupils have been effective in maintaining classroom control?	5	7	2		
8. Do you think punishment is necessary in your classroom?	1	6	2	4	1
9. Do you feel that punishment is more effective than positive reinforcement in promoting classroom discipline?		3	2	5	4
10. Do you feel that punishment is more effective than positive reinforcement in promoting academic achievement?		1	1	5	7
11. Do you object to the presence of the data-gatherers in your classroom?		1	2	3	8
12. Does the presence of the data-gatherers cause you to teach differently?		1	1	4	8
13. Do you continue to use the principles of positive reinforcement when the data-gatherers and others are not present in your classroom?	9	5			

	Definitely Yes	Generally Yes	Neutral or No Effect	Generally No	Definitely No
14. Have the services of the project coordination been of value to you?	6	5	3		
15. Do you feel that the members of the project staff give you enough support?	3	9	1	1	
16. Do you find it difficult to apply the success technique consistently throughout each school day?	1	1	1	6	5
17. Are there particular times of the day or particular days of the week when program implementation is especially difficult. If so, when_____	1		1	12	
18. Is program implementation especially difficult in any particular subject or content area? If so, what _____ _____	1		1	11	1
19. Do you find teaching easier using the success technique?	7	4	2	1	
20. Do you feel that you could apply the success technique without the back-up support of the project staff?	5	7	1	1	
21. Would you volunteer to participate in the project if absolutely no pressure was applied on you to do so?	8	3	3		
22. Would you recommend the success technique to a friend having discipline problems with his or her pupils?	9	3	2		
23. Would you recommend the success technique to a friend who wishes to obtain greater academic gains from his or her pupils?	8	4	2		
24. Would you attempt to continue using elements of the success technique if the project were terminated?	9	5			

Effects on pupils. All of the responding teachers indicated that the program had no detrimental effect on the students. The teachers' responses to items seven and twenty-two indicated that generally the success technique's program of ignore and praise was generally considered effective in maintaining classroom discipline and that they would suggest the technique to another teacher experiencing discipline problems. In addition to discipline, the teachers also indicated that they would recommend the success technique to a teacher wishing to obtain greater academic gains from his/her children. This suggests that the teachers also considered the technique effective in accelerating academic achievement.

Effects on Teachers. Nearly all of the responding teachers indicated that the technique made teaching a more pleasant job (80 per cent). More importantly, however, the teachers overwhelmingly indicated that they (a) used the principles of positive reinforcement when not monitored by the project data-gatherers and when others were not present and (b) would continue using elements of the success technique if the project were terminated.

Program Implementation. Only two of the respondents said that they found it difficult to apply the success technique consistently throughout the school day, and only one stated that there were particular times of the day, or days of the week, when implementation was especially difficult. Only one teacher indicated that a subject

or content area made implementation difficult. This teacher said that science presented some problems in implementation.

Positive Reinforcement. The teachers were somewhat split on the issue of tangible rewards. Slightly less than half maintaining that tangible rewards were necessary after the first week of implementation while the majority thought that tangible rewards were not necessary.

Nearly all of the teachers indicated that the activity room was a valuable component of the program and that their pupils responded well to activity reinforcers.

Punishment. Half of the respondents indicated that they felt punishment was necessary in the classroom. However, only 20 per cent of the teachers indicated that punishment was more effective than positive reinforcement. Only one of the respondents said that punishment was more effective in generating academic performance than positive reinforcement.

Other. The teachers were nearly evenly divided on the value of the interest stations. They indicated that they had no objection to the data-gatherers being in their room; and they felt that project staff and coordinators services were valuable and supportive.

Parent Questionnaire

Two-hundred and fifty-four of the parents of project pupils completed all or portions of the attached parents questionnaire

TABLE 13

PROJECT SUCCESS ENVIRONMENT
PARENTS' QUESTIONNAIRE

We would be grateful if you would answer the following questions about your child's experience in school this year. We need your opinion about Project Success Environment so that we can improve the project next year. Thank you for your help.

1. Has your child been happier in school this year than in past years? Yes_____ No_____

2. Have you been contacted more or less this year by your child's teacher or principal about discipline problems? More_____ Less_____

3. Is your child's behavior at home better or worse this year? Better___ Worse___

4. Do you think your child is doing better in his school work this year than he did in the past? Yes_____ No_____

5. Has your child expressed any bad feelings about being in a Project Success Environment class? Yes_____ No_____

6. Do you agree that children should be allowed to earn rewards in school if it helps them to work harder on their school work? Yes_____ No_____

7. Would you like to know more about the activities of Project Success Environment? Yes_____ No_____

8. What is your opinion of the project, based on what you may have seen or what your child may have told you?

(see Table 13). In general, the parents expressed a very positive attitude towards the project and indicated that the project had a beneficial effect on their children. They overwhelmingly indicated that their children were happier in school (87 per cent), that they were contacted less by the principal during the year about discipline problems (80 per cent), and that their child did better school work this year than in the past (76 per cent). The parents also agreed with the use of incentives in the school (98 per cent).

Principal Questionnaire

Two out of three project principals responded to an "open-ended" questionnaire given them in May, 1973 (see Table 14).

The principals said that there were fewer discipline referrals from the project classes. In commenting about their own opinions in dealing with problem children, both indicated that before exposure to Project Success Environment they believed in and utilized punishing consequences for inappropriate behavior. One principal indicated that he still used punishment in a few classes but both said that their awareness and use of positive techniques in dealing with children had increased. They also indicated that the success technique seemed to have a positive influence on students' willingness to engage in academic tasks in the classroom. Finally, they reported the most noticeable effects of the project as being:

(1) a good classroom atmosphere; (2) teacher involvement and better organization by the teachers; (3) happier kids; and (4) children more involved in their academic work.

TABLE 14

Project Success Environment

PRINCIPAL'S QUESTIONNAIRE

1. Has the frequency and severity of discipline problems in your school been changed by the introduction of PSE and in what ways?

2. In your dealings with problem children in your school have your ideas or actions changed in the past 3 years as a result of being familiar with the success technique?

   a. State your old point of view

   b. Any changes in this point of view?

3. Has the project, in your opinion, had any effect on students' academic performance and in what ways?

4. What effects of PSE have been the most noticeable to you?

SUMMARY YEAR III

The results obtained in Year III successfully replicated those of Year II, again demonstrating that the application of the success technique produces a more reinforcing, less punitive classroom environment with few disruptions, a high degree of task involvement, and greater academic achievement than is typically produced by traditional teaching methods. Thus, we can say with confidence that the success technique provides the inner-city teacher with both an effective classroom management system and an effective program for the acceleration of academic performance.

Data obtained in project classes during Year III from systematic observation of teacher and pupil behavior at both the elementary and middle school were compared with similar data from elementary control classes collected in Year II and from middle school control classes collected in Year III. These data were graphed and comparisons clearly show both that in Year III project pupils maintained a reduced level of disruption and a high percentage of time on assigned tasks relative to controls and that project teachers in Year III reinforced with high frequency and punished with low frequency relative to controls. As expected, then, the results for Year III are consistent with those from Year II.

Since these findings had been firmly established in Year II, during Year III two other questions concerning in-class behavior were the focus of evaluation: (1) Were the results obtained for Year I

and II caused in part by the fact that observations were frequent, occurring two to four times per week in every class? and (2) Can inexperienced teachers operate as effectively as experienced teachers?

In-class observations were made only twice each month during Year III. These data taken as a whole indicate that pupil behavior during the third year was as good as pupil behavior for Year II, particularly for the latter half of the school year, but that teacher behavior was altered somewhat by less frequent observation -- specifically, teachers reinforced only one-half as often when they were observed less frequently. However, project teachers continued to reinforce at a much higher rate than they punished and the reduction in reinforcement frequency did not cause a change in pupil behavior from Year II to Year III. The results suggest, then, that the absolute number of in-class observations may be substantially reduced without adversely affecting the effectiveness of the success technique.

The behavior of teachers and pupils in classes with experienced teachers (at least one year in the project) were compared to teacher and pupil behavior in classes with inexperienced teachers. The experienced and inexperienced teachers differed little in their delivery of reinforcement and punishment. The results with respect to pupil behavior are less clearcut. Pupils in the classes of inexperienced teachers at the elementary level did as well as or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out performed pupils in the classes

of inexperienced teachers. This result may be important. Project staff have observed that it is more difficult to implement the success technique with older children. By the time a child reaches sixth grade, he has had extended experience with school. If this experience has been predominantly negative rather than positive, considerable time would be required to overcome these expectations. Furthermore, the teachers of older children may need more time and experience to apply the success technique effectively to children with extended histories of failures.

Project Success Environment was successful in promoting academic achievement in Year III of its operation just as it had been in Year II. Project pupils, in general, gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During Year II of the project's operation, project pupils gained an average of 6.9 months on the California Achievement Test (CAT) in reading compared to the 3.4 months gained by controls. During Year III project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. Arithmetic gains made during Year III also substantiate the findings of Year II. In Year II project pupils averaged 6.5 months gain on the arithmetic section of the CAT while control pupils gained an average of 3.9 months. During

Year III project pupils gained 7.3 months in arithmetic achievement while the controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II and further substantiates the hypothesis that Project Success does indeed improve the academic performance of both elementary and middle school pupils.

ATTACHMENT TO APPENDIX A

California Achievement Tests: Analyses of Variance Comparing Project versus Control Gains

Comprehensive Instructional Program's Diagnostic Tests: Analysis of Variance Comparing Project versus Control Gains

CALIFORNIA ACHIEVEMENT TESTS: ANALYSES OF VARIANCE
COMPARING PROJECT VS. CONTROL GAINS

Arithmetic (Grades 2-6)

Source	SS	df	MS	F
Treatment (T)	2.44	1	2.44	8.71**
Grade (G)	6.66	4	1.67	5.96**
Sex (S)	2.76	1	2.76	9.86**
T x G	1.79	4	0.45	1.61
T x S	0.00	1	0.00	0.00
G x S	0.81	4	0.20	0.71
T x G x S	2.11	4	0.53	1.89
Within Cell	117.38	419	0.28	
Total	133.94	438		

Arithmetic (First grade)

Source	SS	df	MS	F
Treatment (T)	0.19	1	0.19	1.05
Sex (S)	0.19	1	0.19	1.05
T x S	0.00	1	0.00	
Within Cell	13.62	74	0.18	
Total	14.00	77		

**$p < .01$

CALIFORNIA ACHIEVEMENT TESTS: ANALYSES OF VARIANCE
COMPARING PROJECT VS. CONTROL GAINS

Reading (Grades 2-6)

Source	SS	df	MS	F
Treatment (T)	2.44	1	2.44	10.1**
Grade (G)	3.25	4	0.81	3.38**
Sex (S)	1.95	1	1.95	8.13**
T x G	3.58	4	0.90	3.75**
T x S	0.00	1	0.00	0.00
G x S	1.95	4	0.49	2.04
T x G x S	1.95	4	0.49	2.04
Within Cell	101.30	419	0.24	
Total	116.42	438		

Reading (First grade)

Source	SS	df	MS	F
Treatment (T)	2.67	1	2.67	11.12**
Sex (S)	0.76	1	0.76	3.17
T x S	0.76	1	0.76	3.17
Within Cell	17.90	74	0.24	
Total	22.09	77		

**$p < .01$

COMPREHENSIVE INSTRUCTIONAL PROGRAM'S
DIAGNOSTIC TESTS PASSED
PROJECT VS. CONTROL

Grades 1-3

Source	SS	df	MS	F
Treatment (T)	1.26	1	1.26	0.13
Grade (G)	107.99	2	54.00	5.76**
Sex (S)	0.00	1	0.00	0.00
T x G	2.90	2	1.45	0.15
T x S	21.34	1	21.34	2.28
G x S	9.09	2	4.55	0.49
T x G x S	42.69	2	21.35	2.28
Within Cell	1,501.00	160	9.38	
Total	1,686.27	171		

**$p < .01$

APPENDIX B

Longitudinal Exportation Study

Prepared by:
Dr. Scott Persons

Tables for all analyses of variance reported herein are presented in the Attachment to Appendix B and are not referenced in the text.

INTRODUCTION

During the second half of the 1971-72 school year, a pilot study was made of a model for exporting the success technique to new schools beyond the project's research base. The classroom management aspects of the success technique were introduced throughout Fred A. Toomer Elementary School quickly and at minimal expense. Several weeks later in-class observational data showed clearly that classroom behavior had dramatically improved (see Appendix D of the End-of-Budget Period Report FY 1972). In the late Spring of 1972, the project staff grew concerned that the positive effects of the technique at Toomer, which had become obvious almost immediately in February, were weakening. There were no data to confirm or deny this concern, but the concensus of opinion was that, after the staff had pulled out of Toomer completely in the spring, the reinforcement systems were not administered as well as needed. Thus, the project staff proposed to study, during the 1972-73 school year, a revised exportation model in which the principal would be thoroughly trained in positive contingency management and clearly responsible for administration of the reinforcement systems. Moreover, the efficacy of this model would be assessed not only soon after the introduction of the success technique but also many months later.

To carry out this study, Grant Park Elementary School was selected as the exportation site. An agreement was reached with the principal there to receive training along with his faculty in the theory of positive contingency management and to oversee on an ongoing basis the implementation of the success technique. In May, 1972, eight volunteer teachers at Grant Park were observed in order to obtain baseline data regarding their habits of reinforcement and punishment along with their students' habits of disruption and attention. The Grant Park faculty underwent brief but intensive training in the success technique in August, 1972. Data on the same sample of teachers were obtained in October, 1972, one month after the technique was implemented, and again in May, 1973, after eight months of operation.

Immediately prior to preschool week, the principal at Grant Park was transferred. The director of Project Succes Environment was then assigned by the Atlanta Public Schools as principal for Grant Park (though the assistant principal took over many of the principal's usual duties). The director was, of course, knowledgeable in the theory and agreed to oversee implementation so that the study could be undertaken as planned.

METHOD

Subjects

All students and teachers from eight classrooms (grades 1, 4, 6, and 7) at Grant Park Elementary School participated in the study. Ninety per cent of the students were white, and both sexes were nearly equally represented. Most of the students came from disadvantaged backgrounds, as Grant Park is located on the fringe of the inner-city in Atlanta, Georgia. All eight teachers were female and seven were black.

Treatment

During preschool week, all interested teachers at Grant Park, including the eight teachers who had volunteered and been observed the preceding May, received training by the Project Success Environment (PSE) staff and by experienced project teachers in the use of the success technique. During four morning sessions, the theory of positive contingency management was read and discussed. The theory was taken primarily from selected chapters of Becker, Engelmann, and Thomas' Teaching: A Course in Applied Psychology. Practical problems of application were also discussed in small groups headed by members of the PSE staff and including experienced PSE teachers.

Throughout the first month of school as the technique was introduced into the classrooms, members of the staff provided consultative assistance to teachers on an individual basis. After the first month, no regular assistance was given but a behavior management technician remained available on request to work with individual teachers having special problems. More importantly, the principal, and eventually the assistant principal as he became more knowledgeable of the technique, maintained an ongoing supervision of the success technique.

The success technique as implemented at Grant Park consisted of a reinforcement system and a set of positive contingency management procedures similar to those proven successful at Toomer. No systematic attempt was made to directly affect academic achievement, the emphasis was on classroom management.

The teachers were trained to carry out the following positive contingency management procedures:

1. Ignore disruptive behavior and focus attention on students who are working well.

2. Reinforce behavior incompatible with the behavior that you wish to eliminate.

3. Reinforce frequently and immediately following the desired behavior.

4. Accompany reinforcement with direct eye contact and descriptive praise telling the student exactly what he has done to earn the reinforcement.

5. Set up positive contingencies for students who finish assigned exercises quickly and correctly.

6. Administer reinforcement unpredicted after a behavior is well-learned.

7. Move around the classroom frequently, monitor student activity in all groups, and reinforce all students with approximately equal frequency.

8. When punishment is appropriate (e.g. persistent and continuous disruption, or violent, dangerous misconduct), use a warning signal and, if behavior continues, a properly and calmly administered punishment procedure (time-out, withdrawal of privileges, fines, etc.).

The reinforcement system operated as follows:

1. Teacher-administered tokens (checkmarks on a card in grades 1-4 and tickets in grades 5-7) along with verbal praise were the immediate reinforcers.

2. A student traded 25 tokens for 25 minutes of free play in an activity room. The activity room contained a number of toys and games suitable to the ages of the children.

3. Each teacher decided upon three to five rules briefly stating conduct behavior appropriate in her classroom.

4. On a frequent, but unpredictable basis, the teacher administered tokens to students who behaved in accordance with the rules of conduct, with shaping used where necessary to produce appropriate behavior.

Procedure and Design

Five data-gatherers who regularly collected in-class observational data in project and control classes during Year II and Year III systematically observed and recorded the behaviors of the eight teachers and their students at Grant Park. Nine observations of each class were scheduled during two-week periods in May, 1972, in October, 1972, after the teachers had received training in the success technique and had implemented it in their classrooms for several weeks, and again in May, 1973, after the technique had been operational throughout an entire school year.

Following the standard observation procedures used in Year II (see Apendix B of the End-of-Budget Period Report FY 1972), the frequency of teacher reinforcement and punishment were observed to assess changes in teacher behavior after training in, and implementation of the success technique. Also following standard procedures, the frequency of student disruptions and the per cent of time the students spent attending to their assigned academic tasks were observed to assess the effect on student conduct of the teacher's implementation of the success technique. Every observation of a given teacher and class of students was scheduled at the same period of the school day throughout the study. The schedule was followed with a few exceptions due to special events at Grant Park. All the data for a given class were collected by one observer.

RESULTS

Two analyses of variance were run on each of the four variables, reinforcement, punishment, disruption, and attention. The first compared the behavior in May, 1972, with the same behavior in October, 1972; the second compared the behavior in May, 1972, with the behavior in May, 1973. For each of the three observation periods, nine observations were scheduled in each classroom. However, teacher absences resulted in eight observations in three cases and only five in one other. For each analysis the observations in each classroom both before and after training were divided into three blocks, and an average score for the dependent variable was taken within each block (1, 2, or 3 observations per block). This block variable was included in an analysis to determine if changes occurred within the before or after training periods. Thus, the analysis may be described as an eight (Teachers) by two (Before/After) by three (Blocks) factorial design. The second and third factors are repeated measures. Effects significant at or beyond the .10 level are reported.

In Table 1, the mean number of reinforcements per student and the mean number of total punishments administered in a 15-minute period by the teachers prior to, one month after, and eight months after the teachers received training in positive contingency management are presented. One month after training and implementation of the success technique the teachers had increased their frequency of reinforcement, F (1,7) = 6.89, $p < .05$, and had decreased their frequency of punishment, F (1,7) = 4.33, $p < .10$. In fact, seven out of the eight teachers at least doubled their delivery of reinforcement one month following training. Eight months after training and implementation, the teachers delivered reinforcement with approximately the same frequency as they had one year earlier before training, F (1,7) = 0.62 ns. However, the frequency of punishment continued to be significantly reduced, F (1,7) = 4.79, $p < .10$.

TABLE 1

MEAN REINFORCEMENTS/STUDENT AND TOTAL PUNISHMENTS DELIVERED BY TEACHERS IN MAY, 1972, IN OCTOBER, 1972, AND IN MAY, 1973

Teacher Behavior	May, 1972	October, 1972	May, 1973
Reinforcements/Student in 15 Minutes	0.16	0.61	0.24
Total Punishments in 15 Minutes	1.95	0.80	0.85

Clearly, then, the training produced appropriate changes in most of the teachers' behavior on a short-term basis. The long-term effects are less clear.

There were substantial changes in student behavior on both a short and a long-term basis with respect to disruption, but no significant changes in attentive behavior. The mean number of disruptions per student in a 15-minute period and the mean percentage of time the students spent attending to assigned academic tasks are presented in Table 2 as they were calculated prior to, one month after, and eight months after training.

TABLE 2

MEAN DISRUPTIONS/STUDENT AND PER CENT TIME ON-TASK IN MAY, 1972, IN OCTOBER, 1972, AND IN MAY, 1973

Student Behavior	May, 1972	October, 1972	May, 1973
Disruptions/Student in 15 Minutes	0.99	0.46	0.53
Per Cent Time On-Task	80	81	74

The frequency of student disruption was substantially reduced on both a short-term, F (1,7) = 5.08, $p < .10$, and a long-term F (1,7) = 4.62, $p < .10$, basis. However, attention did not change significantly either one month after training, F (1,7) = 0.11 ns, or eight months after training, F (1,7) = 2.33 ns. Although the mean per cent time on task in May, 1973, (74 per cent) is in fact lower than the May, 1972, figure (80 per cent), this difference is not significant and, therefore, best attributed to variability in measurement.

DISCUSSION

The revised exportation model, with the principal responsible for overseeing implementation on an ongoing basis, yielded encouraging results. By and large, the short-term improvements in behavior reported in Year II (see Appendix D of the End-of-Budget Period Report FY 1972) were replicated and extended over an eight-month period.

The findings reported in Appendix D are reproduced in Table 3 for purposes of comparison. With the exception of per cent time on task, the figures in Table 3 are remarkably similar to those presented above in Tables 1 and 2 under May and October, 1972. Both at Toomer and at Grant Park, the teachers' behavior changed significantly after training. They tripled their frequency of reinforcement and cut their frequency of punishment by more than half. Moreover, the absolute value of the after-training figures are nearly identical, which suggests that this level of functioning might be expected

as a result of future exportations. Student disruption was cut in half at both Toomer and Grant Park and again the absolute level of student behavior was similar one month after implementation. Finally, the difference in the attention figures is largely a difference in the original level of attention before training. After training, the percentages are similar. Thus, on a short-term basis, training teachers in the use of success technique appears to consistently produce the desired changes in both teacher and student behaviors (the latter presumably a consequence of the former).

TABLE 3

RESULTS OBTAINED AT TOOMER DURING YEAR II

Behavior	Before Training	After Training
Reinforcement/Student in 15 Minutes	.21	.70
Total Punishment in 15 Minutes	2.50	.83
Disruptions/Student in 15 Minutes	1.13	.56
Per Cent Time On-Task	67.40	84.50

After the success technique had been implemented under the principal's supervision for an entire school year, the short-term reduction in student disruption and teacher punishment remained, although teacher reinforcement returned to its original level. Apparently, once the teachers had succeeded in reducing disruption to a manageable level by using the technique's "ignore and praise" procedure - that is, no longer punishing undesired behavior and instead reinforcing desired behavior -- the teachers were able to maintain the low level of disruptive behavior simply by ignoring it and reinforcing desired behavior with their original frequency. The theory of positive contingency management clearly implies that once habits are established reinforcement may be largely phased out.

There was no significant change in student attention either one month or eight months after implementation of the success technique. Previous to this study, wherever the success technique was introduced, students became more attentive to academic assignments. This includes three years of implementation in classroom of the projects' research base where attention has often been maintained at the 90 per cent level, as well as the exportation study at Toomer where attention improved from 67.4 to 84.5 per cent. The lack of change in attention found in the present study is, therefore, of considerable interest.

There are several plausible explanations, none of which are mutually exclusive. First, the original level of attention at Grant Park was 80 per cent, which is a higher mean than has been found in other inner-city schools, and this may have caused the teachers to concentrate their efforts on reducing disruption rather than on increasing attention. Second, there was no effort made by the project to adjust the curriculum at Grant Park to individual needs and insure that each student was continually assigned doable tasks. This kind of curriculum assistance has been standard procedure in research-base classrooms. Obviously, the probability of the student attending to academic tasks is greatly increased if the tasks assigned are within the student's capacity. Thus, it may be necessary to provide ongoing curriculum assistance as part of the success technique in order to maintain the level of attention above 80 per cent. Finally, the teachers' return to their original level of reinforcement could have only had adverse effects on attention. Whereas phasing out of reinforcement is appropriate for established habits of conduct behavior, it is inappropriate for the learning of new behaviors; and academic behavior is largely concerned with learning new skills. Thus, since reinforcement was minimal, there may have been limited motivation to learn new skills, and hence limited motivation to attend to assigned academic tasks.

In conclusion, there are some problems with the maintenance over an entire school year of the positive changes in student and teacher behavior brought about by training in, and implementation of the success technique. However, the results are encouraging, particularly so considering the long-term reduction by 50 per cent of disruptive classroom behavior, which is often a serious problem in the inner-city school.

ATTACHMENT TO APPENDIX B

Analyses of Variance Tables for
Grant Park In-Class Observation Data

Analysis of Variance Tables for Grant Park In-Class Observation

Reinforcement
May, 1972 vs. October, 1972

Source	df	Mean Square	F
Teacher	7	0.40	
Before/After	1	2.44	6.89**
Blocks	2	0.02	0.80
Teacher X Before/After	7	0.35	
Teacher X Blocks	14	0.03	
Before/After X Blocks	2	0.01	0.10
Teacher X Before/After X Blocks	14	0.05	

Punishment
May, 1972 vs. October, 1972

Source	df	Mean Square	F
Teacher	7	2.74	
Before/After	1	15.76	4.33*
Blocks	2	0.03	0.08
Teacher X Before/After	7	3.64	
Teacher X Blocks	14	0.39	
Before/After X Blocks	2	0.99	2.52
Teacher X Before/After X Blocks	14	0.39	

Disruption
May, 1972 vs. October, 1972

Source	df	Mean Square	F
Teacher	7	1.24	
Before/After	1	3.30	5.08*
Blocks	2	0.04	0.74
Teacher X Before/After	7	0.65	
Teacher X Blocks	14	0.06	
Before/After X Blocks	2	0.04	0.79
Teacher X Before/After X Blocks	14	0.06	

**$p < .05$
*$p < .10$

Analysis of Variance Tables for Grant Park In-Class Observation

Attention
May, 1972 vs. October, 1972

Source	df	Mean Square	F
Teacher	7	.012	
Before/After	1	.001	0.11
Blocks	2	.010	2.23
Teacher X Before/After	7	.009	
Teacher X Blocks	14	.004	
Before/After X Blocks	2	.006	1.92
Teacher X Before/After X Blocks	14	.003	

Reinforcement
May, 1972 vs. May, 1973

Source	df	Mean Square	F
Teacher	7	0.22	
Before/After	1	0.08	0.59
Blocks	2	0.03	0.91
Teacher X Before/After	7	0.13	
Teacher X Blocks	14	0.03	
Before/After X Blocks	2	0.04	1.07
Teacher X Before/After X Blocks	14	0.04	

Punishment
May, 1972 vs. May, 1973

Source	df	Mean Square	F
Teacher	7	3.60	
Before/After	1	14.62	4.79*
Blocks	2	0.11	0.31
Teacher X Before/After	7	3.05	
Teacher X Blocks	14	0.34	
Before/After X Blocks	2	0.38	1.15
Teacher X Before/After X Blocks	14	0.33	

*$p < .10$

Analysis of Variance Tables for Grant Park In-Class Observation

Disruption
May, 1972 vs. May, 1973

Source	df	Mean Square	F
Teacher	7	1.61	
Before/After	1	2.54	4.62*
Blocks	2	0.05	0.94
Teacher X Before/After	7	0.55	
Teacher X Blocks	14	0.05	
Before/After X Blocks	2	0.05	0.66
Teacher X Before/After X Blocks	14	0.07	

Attention
May, 1972 vs. May, 1973

Source	df	Mean Square	F
Teacher	7	.035	
Before/After	1	.039	2.33
Blocks	2	.005	1.30
Teacher X Before/After	7	.017	
Teacher X Blocks	14	.004	
Before/After X Blocks	2	.001	0.42
Teacher X Before/After X Blocks	14	.002	

*$p < .10$

APPENDIX C

Longitudinal Studies

Prepared by:
Gail Russell

Tables for all analyses of variance reported herein are presented in the Attachment to Appendix C and are not referenced in the text.

Longitudinal Studies

In order to ascertain what longitudinal effects Project Success Environment may have had, three studies were conducted. Study 1 was conducted to determine if project pupils made a significantly greater gain than control pupils in academic aptitude or academic achievement as a result of participating in a Project Success classroom for two and one-third successive school years. Studies 2 and 3 were conducted to determine how pupils perform once they return to a nonproject classroom. Study 2 examined academic performance, attendance, and teacher ratings for a group of project students who entered the ninth grade (the first year of high school) after participating in Project Success during their eighth grade year at a middle school. Study 3 examined academic performance, attendance, and teacher ratings for a group of project students upon entering the seventh grade after participating in Project Success during their sixth year of school.

Study 1. In order to determine if Project Success had any longitudinal effects on academic aptitude or achievement, those pupils who were beginning their third year in a project classroom were given the California Short-Form Test of Mental Maturity (CTMM) and the Metropolitan Achievement Tests (MAT) in reading and arithmetic.

These tests were given since they had been administered to all project and to a corresponding group of control pupils during Year I of the project's operation. Consequently, Year I scores could be used as a pretest and Year III scores could be used as a posttest.

The pupils tested consisted of 26 third grade, 16 fourth grade, and 25 fifth grade project pupils and 15 third grade, 9 fourth grade and 26 fifth grade control pupils. It should be noted that those pupils who were in the third, fourth, and fifth grades during Year III of the project had been in the first, second, and third grades respectively during Year I of the project's operation.

Two complications arose in conjunction with this longitudinal study. The first complication was related to the fact that the control school had a much higher mobility rate than one of the two project schools involved in the study (.17 for the project school versus .23 for the control school). During Year I, approximately an equal number of project and control pupils were tested at each grade level. However, the number of control pupils available for posttesting at the third and fourth grade levels was only one-half the number of project pupils available for posttesting (26 versus 15 in the third grade and 16 versus 9 in the fourth grade). At the fifth grade level, the number of project and control pupils available for posttesting was approximately the same (25 versus 26). The mobility index for this project school was almost identical to that

of the control school (approximately 0.23 for both over the two-year period).

The differences in mobility rate for the third and fourth grade control pupils may have resulted in selective sampling of the control pupils involved at these grade levels.

The second complication associated with the longitudinal study was related to the fact that pupils were in a higher grade during Year III of the project than they were in Year I. Consequently, higher levels of the MAT were appropriate for the posttest. Unfortunately, the subtests did not remain the same across levels of the MAT. That is, different skills are introduced at higher levels of the tests. The levels of the MAT administered to a given grade level, along with the reading and arithmetic subtests included in that level, are presented in Table 1. In general, the reading subtests, in terms of the skills measured, remained the same across levels--word knowledge, word discrimination (except at the fifth grade) and reading. As for arithmetic, the concepts and skills subtest was the same for both first and third grade. For the third and fifth grade, both the problem solving and concepts subtest and the computations subtest were the same. For the second and fourth grades, arithmetic subtests could not be compared. It should also be noted that those pupils who were entering the first grade during Year I of the project received the Metropolitan Readiness Tests

(MRT) as opposed to the achievement tests. These pupils received the achievement test during December of Year I, however, and it is these scores which were used as a pretest.

TABLE 1

LEVELS OF THE METROPOLITAN ACHIEVEMENT TESTS
GIVEN DURING YEAR I AND YEAR III

YEAR I	YEAR III
First Grade -- Primary I	Third Grade -- Primary II
Word Knowledge	Word Knowledge
Word Discrimination	Word Discrimination
Reading	Reading
Concepts and Skills	Concepts and Skills
Second Grade -- Primary II	Fourth Grade -- Elementary
Word Knowledge	Word Knowledge
Word Discrimination	Word Discrimination
Reading	Reading
Arithmetic	...
...	Computations
...	Problem Solving and Concepts
Third Grade -- Primary II	Fifth Grade -- Intermediate
Word Knowledge	Word Knowledge
Word Discrimination	...
Reading	Reading
Computations	Computations
Problem Solving and Concepts	Problem Solving and Concepts

Findings. The results of the California Test of Mental Maturity (CTMM) are presented in Table 2. Control pupils gained more in academic aptitude (IQ) from the first to third grades than did project pupils. In addition, those control pupils who went from the second to fourth grades lost less in IQ than project pupils lost. For those pupils who went from the third to fifth grade level, however, the project pupils gained considerably more than the controls (9.00 versus 4.67). It was only at the fifth grade level that the number of project and control pupils were equal.

A three-way analysis of variance (Treatment x Grade x Sex) performed on these change scores revealed that these differences in project and control gains were not statistically significant, $F(1,112) = 0.02$, ns.

TABLE 2

MEAN SCORES AND GAINS OF PROJECT AND CONTROL PUPILS OVER A TWO-YEAR PERIOD CALIFORNIA TEST OF MENTAL MATURITY (IQ)

	N	Project	N	Control
Grade 1	24	90.92	13	94.85
Grade 3	24	91.29	13	99.69
Gain		0.37		4.84
Grade 2	15	90.73	8	91.38
Grade 4	15	85.27	8	87.63
Gain		- 5.46		- 3.75
Grade 3	26	85.00	27	82.85
Grade 5	26	94.00	27	87.52
Gain		9.00		4.67

In interpreting these findings, it should be remembered that at the third and fourth grade levels the sample size of the control pupils was one-half the size of the project pupils. In addition, the mean pretest IQ of the control pupils was higher than that of the project pupils, especially for the third grade pupils (that is, their pretest, or first grade IQs, were higher). This observation suggests that the control pupils available for posttesting may have been a biased sample of the original control pupils, since there was initially no difference in mean IQ scores of those project and control pupils in grade one during Year I of the project.

As for academic achievement, Tables 3, 4, and 5 presents the gains made by project and control pupils on the MAT subtests over the two-year period. Only those subtests for which both pretest and posttest scores are available are presented. As may be observed in these tables, there was little difference in the gains made by project and control pupils. Indeed, analyses of variances (Treatment x Sex) performed on each of these subtests revealed no statistically significant differences.

Study 2. In order to determine if there are any lasting effects once project students return to a traditional classroom setting, five measures were obtained for a group of 30 project and 30 control students. These measures were obtained regarding the students' performance during their first quarter in high school (i.e., ninth grade).

TABLE 3

GAINS OF PROJECT AND CONTROL PUPILS
FIRST THROUGH THIRD GRADES

	Project				Control			
	N	Pre	Post	Gain	N	Pre	Post	Gain
Word Knowledge	26	1.4	2.6	1.2	15	1.3	2.6	1.3
Word Discrimination	26	1.5	3.3	1.8	15	1.4	3.2	1.8
Reading	25	1.6	2.8	1.2	15	1.4	2.7	1.3
Concepts and Skills	25	1.7	2.7	0.9	9	1.4	3.1	1.7

TABLE 4

GAINS OF PROJECT AND CONTROL PUPILS
SECOND THROUGH FOURTH GRADES

	Project				Control			
	N	Pre	Post	Gain	N	Pre	Post	Gain
Word Knowledge	16	1.7	3.0	1.3	9	1.6	3.0	1.4
Word Discrimination	16	1.7	3.2	1.5	8	2.1	3.4	1.3
Reading	16	1.8	2.9	1.1	9	1.9	3.1	1.2

TABLE 5

GAINS OF PROJECT AND CONTROL PUPILS
THIRD THROUGH FIFTH GRADES

	Project				Control			
	N	Pre	Post	Gain	N	Pre	Post	Gain
Word Knowledge	25	2.5	4.4	1.9	24	2.4	3.9	1.5
Reading	24	2.7	3.7	1.0	26	2.4	3.9	1.5
Problem Solving and Concepts	19	2.4	4.7	2.3	21	2.4	4.7	2.3
Computations	23	2.7	5.1	2.5	24	2.3	4.8	2.5

For this study the label "project" indicates that these students had participated in Project Success during their eighth grade year at a middle school. The five measures obtained were: (1) English grades, (2) Math grades, (3) Number of days absent, (4) Number of days tardy, and (5) Teacher ratings on a five-item questionnaire (See page 128).

Findings. Both the English and Math grades were coded as follows: A=5, B=4, C=3, D=2, F=1. The mean grades, using this coding, for project and control pupils are presented in Table 6. The mean grade in English was significantly higher for project than for control pupils (3.5 versus 3.0). The higher project mean in English is not surprising since the major focus of project activities during the previous year had been on reading. A two-way analysis of variance (Treatment x Sex) indicated that this difference between project and control performance was statistically significant, $F(1,56) = 3.49$, $p<0.10$.

TABLE 6

PERFORMANCE AFTER RETURNING TO NON-PROJECT CLASSROOM FOR THE FIRST QUARTER IN THE NINTH GRADE

	Project Mean	Control Mean
English Grades	3.5	3.0
Math Grades	2.8	3.2
No. Days Absent	4.2	4.4
No. Days Tardy	3.1	4.2
Teacher Ratings	15.2	14.1

The mean grades in math obtained by project and control students are also presented in Table 6. Control pupils made slightly better grades in math than did project pupils. However, analysis of variance (Treatment x Sex) performed on these scores revealed that these differences were not statistically significant, $F(1,56) = 1.23$, ns.

The mean number of days absent and the mean number of days tardy for project and control pupils are the third and fourth entries in Table 6. Control pupils were both absent and tardy more than project pupils. These differences were not, however, statistically significant.

Mean scores on the teacher ratings is the final entry in Table 6. For each student in the study, both the students' English and Math teacher completed the five-item questionnaire included on page . The responses to each item on the questionnaire were rated from one to four with one indicating the least favorable response and four indicating the most favorable response. The scores obtained on each item were summed to provide a total rating.

As may be observed in Table 6, project pupils received a slightly better rating than control pupils. This difference, however, did not reach statistical significance.

In summary, there was one major longitudinal effect: project students made significantly better grades in English than did a comparable group of control students. This finding is reassuring

since the primary focus of Project Success has been in reading. In addition, project students missed fewer days, were tardy less often and received better teacher ratings than did the control students. Although these latter differences did not reach statistical significance, they were in the right direction and provide promising information regarding the lasting effects of the project.

In order to get stronger longitudinal effects, assuming that a student must return to a traditional classroom setting, it is reasonable to believe that more than one or two years of successful academic experiences may be necessary. This may particularly be the case for the middle school or high school student who is subjected to strong peer pressure and who has experienced a relative short period of success introduced rather late in his academic career. It may be that longitudinal effects would have been stronger if project pupils had been kept together during their first year of high school rather than being dispersed throughout the general high school population. That is, the peer influence of other project students might have been more beneficial than the general peer pressures found in the typical low-achieving high school.

Study 3. This study is very similar to Study 2 in that the same five measures were obtained: (1) English grades, (2) Math grades, (3) Number of days absent, (4) Number of days tardy, and (5) teacher ratings on a five-item questionnaire (See page).

The students in this study, however, were 15 project and 15 control students selected from a seventh grade class. The "project" students in the study were students who had participated in a project classroom during their sixth grade in a middle school.

Table 7 presents the mean performance of project and control pupils on these measures. There were no statistically significant differences between the performance of project and control students on these measures.

TABLE 7

PERFORMANCE AFTER RETURNING TO A NON-PROJECT SETTING FOR THE FIRST QUARTER IN THE SEVENTH GRADE

	Project Means	Control Means
English Grades	3.13	3.13
Math Grades	3.20	3.27
No. of Days Absent	2.60	4.20
No. of Days Tardy	2.47	2.00
Teacher Ratings	16.60	16.30

It should be pointed out here, however, that the N's for this study are extremely small (15 in each group) and these measures are not sensitive to small changes. In addition, team teaching in an open classroom setting is provided for all students in this school such that leaving a project success classroom does not put the student back into a traditional setting. The control students who were used for comparison also benefit from the team teaching approach as stated in Study 2.

Here again, it may be necessary in order to obtain stronger longitudinal effects: (1) to introduce Project Success Environment earlier in the school careers of the students, (2) to introduce it for a longer period of time, and (3) to take into consideration the effects that peer influence has on the middle school and high school students. That is, beneficial effects may be obtained by keeping project students together once they leave a project classroom as opposed to dispersing them throughout the general school population where they would be more likely to be exposed to adverse peer pressure.

The Division of Research and Development of the Atlanta Public Schools would like to have certain information concerning the behavior and performance of students attending middle school. Consequently, we would like for you to complete this questionnaire as it relates to the following student _____.

Your help and cooperation in obtaining this information is appreciated.

1. How often do you have to call this student down for misbehaving?
   (a) Never
   (b) Once in awhile
   (c) Fairly often
   (d) Very often

2. What quartile is this student in your class?
   (a) First (Upper 25%)
   (b) Second
   (c) Third
   (d) Fourth (Lowest 25%)

3. What percentage of time does this student pay attention in class?
   (a) 20% or less
   (b) 40% (a little less than half)
   (c) 60% (a little more than half)
   (d) 80% or more

4. Does this student follow directions?
   (a) Never
   (b) Once in awhile
   (c) Fairly often
   (d) Very often

5. Is this student capable of handling a middle school curriculum?
   (a) This student is not prepared for a middle school curriculum.
   (b) This student can handle a middle school curriculum, but not without great difficulty.
   (c) This student has some problems with a middle school curriculum but his (her) overall performance is adequate.
   (d) This student is fully capable of handling a middle school curriculum.

1/4/72

ATTACHMENT TO APPENDIX C

LONGITUDINAL STUDIES: Analyses of Variance
Gains Over a Two Year Period From Grades
One to Three, Two to Four, and Three to Five

Longitudinal Studies: Analyses of Variance
Gains Over A Two-Year Period From
Grades One to Three, Two to Four,
And Three to Five

California Test of Mental Maturity

Source	SS	df	MS	F
Treatment (T)	3.45	1	3.45	0.015
Grade (G)	1,984.95	2	992.48	4.449*
T x G	376.00	2	188.02	0.843
Within Cell	23,872.00	107	223.10	
Total	26,236.40	112		

Word Discrimination

Source	SS	df	MS	F
Treatment (T)	0.137	1	0.137	0.185
Grade (G)	2.59	1	2.590	3.500*
T x G	274.50	1	274.500	370.950***
Within Cell	45.24	61	0.740	
Total	322.467	64		

Word Knowledge

Source	SS	df	MS	F
Treatment (T)	0.00	1	0.00	0.00
Grade (G)	3.49	2	1.75	4.49
T x G	1.99	2	1.00	2.56
Within Cell	42.03	109	0.39	
Total	47.51	114		

Reading

Source	SS	df	MS	F
Treatment (T)	1.16	1	1.16	1.97
Grade (G)	0.83	2	0.42	0.71
T x G	0.33	2	0.17	0.29
Within Cell	64.14	109	0.59	
Total	66.46	114		

*p .10
***p .01

Longitudinal Studies: Analyses of Variance
Performance After Returning to Non-Project
Classroom for the First Quarter in
High School

English Grades

Source	SS	df	MS	F
Treatment (T)	4.43	1	4.43	3.49*
Sex (S)	13.00	1	13.00	10.24***
T x S	0.14	1	0.14	0.11
Within Cell	71.00	56	1.27	
Total	88.57	59		

Math Grades

Source	SS	df	MS	F
Treatment (T)	2.29	1	2.29	1.23
Sex (S)	3.57	1	3.57	1.92
T x S	3.57	1	3.57	1.92
Within Cell	104.00	56	1.86	
Total	113.43	59		

Number of Days Absent

Source	SS	df	MS	F
Treatment (T)	0.71	1	0.71	0.02
Sex (S)	30.00	1	30.00	0.95
T x S	10.72	1	10.72	0.34
Within Cell	1,771.00	56	31.63	
Total	1,812.43	59		

Number of Days Tardy

Source	SS	df	MS	F
Treatment (T)	17.29	1	17.29	0.64
Sex (S)	1.29	1	1.29	0.05
T x S	9.15	1	9.15	0.34
Within Cell	1,525.00	56	27.23	
Total	1,552.73	59		

*p .10
***p .01

Questionnaire Data

Source	SS	df	MS	F
Treatment (T)	17.05	1	17.05	1.47
Sex (S)	95.25	1	95.25	8.23***
T x S	20.29	1	20.29	1.75
Within Cell	648.22	56	11.58	
Total	780.81	59		

***p .01

APPENDIX D

Behavior Management Checklist

Prepared by:
Dr. Howard Rollins

Tables for all analyses of variance reported herein are presented in the Attachment to Appendix D and are not referenced in the text.

Behavior Management Checklist

One objective of the third year of the project was to develop a procedure which would permit rapid assessment of how effectively a teacher applies the success technique. The Behavior Management Checklist was developed in Year II to meet this objective. The checklist consists of 17 items. Each item is scored on a scale from 0-5 representing the degree to which a teacher's behavior is consistent with that aspect of the technique. The bottom point of the scale (0) is used only if the observer has no opportunity to observe the occurence of a particular behavior. The scores are summed across items and divided by the number of items receiving a non-zero score. The checklist may be filled out in one 15-20 minute observation period. A copy of the Behavior Management Checklist is attached at the end of the appendix.

In order to determine the reliability and validity of the checklist, two members of the project staff (the project Director and Project Evaluator) and a project consultant observed six project teachers. All three observed each teacher at the same time.

A Judge (3) by Teacher (6) analysis of variance was run to to determine inner-rater reliability. Overall reliability was 0.94 for all three judges. For any two judges reliability was 0.84. Thus, the Behavior Management Checklist is highly reliable. This finding is particularly significant in view of the fact that the n

was small and that the three observers had different points of view (project director as an administrator and school principal, the consultant, and project evaluator, from a strict behavior modification point of view).

In order to determine the validity of the instrument, correlations were run comparing scores on the checklist to the behavior of these teachers as measured by the in-class observation instrument (see Appendix A). The latter instrument measures frequency of reinforcement delivered by the teacher and the frequency of disruption and per cent involvement of pupils. The scores on the Behavior Management Checklist correlate highly both with teacher behavior and pupil behavior as measured by the in-class observation procedure. The correlation with teacher reinforcement was 0.63, with pupil disruptions, -0.51, with attention, 0.68.

The project staff have developed this instrument for use by administrators (lead teachers, principals) within a school utilizing the success technique so that information about the quality of teacher application can be gathered objectively and quickly without the frequent need for the lengthy and expensive in-class observation procedure. Since the Behavior Management Checklist is reliable and has reasonable correlation with the in-class procedure, these objectives would appear to be accomplished.

ATTACHMENT TO APPENDIX D

In-Class Observations: Analyses of Variance
Comparing Year II vs. Year III Behaviors

In-Class Observations: Analyses of Variance
on the Effects of Experienced versus
Inexperienced Teachers

Behavior Management Checklist

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Reinforcement, Elementary School

Source	df	SS	MS	F
Mean	1	48.81	48.81	
Year	1	5.32	5.32	1.94
Blocks	2	0.41	0.21	1.75
Teachers	5	13.76	2.75	
Years x Blocks	2	0.22	0.11	0.92
Years x Teachers	5	2.75	0.55	
Teachers x Blocks	10	1.17	0.12	
Teachers x Blocks x Years	10	1.20	0.12	

Reinforcement, Middle School

Source	df	SS	MS	F
Mean	1	21.44	21.44	
Years	1	1.35	1.35	7.11**
Blocks	7	3.77	0.54	9.00***
Teachers	4	0.78	0.19	
Years x Blocks	7	0.41	0.06	0.38
Years x Teachers	4	0.30	0.08	
Teachers x Blocks	28	1.59	0.06	
Teachers x Blocks x Years	28	4.38	0.16	

Punishment, Elementary School

Source	df	SS	MS	F
Mean	1	1.60	1.60	
Years	1	0.36	0.36	0.49
Blocks	2	0.20	0.10	5.00**
Teachers	5	3.67	0.73	
Years x Blocks	2	0.45	0.22	0.92
Years x Teachers	5	1.88	0.38	
Teachers x Blocks	10	0.22	0.02	
Teachers x Blocks x Years	10	2.39	0.24	

**$p < .05$

***$p < .01$

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Punishment, Middle School

Source	df	SS	MS	F
Mean	1	13.20	13.20	
Years	1	0.03	0.03	0.04
Blocks	7	1.53	0.22	0.85
Teachers	4	3.23	0.81	
Blocks x Years	7	2.48	0.35	1.21
Years x Teachers	4	2.30	0.58	
Teachers x Blocks	28	7.37	0.26	
Teachers x Blocks x Years	28	8.19	0.29	

Disruptions, Elementary School

Source	df	SS	MS	F
Mean	1	4.51	4.51	
Years	1	0.08	0.08	0.18
Blocks	2	0.04	0.02	0.50
Teachers	5	2.27	0.45	
Blocks x Years	2	0.23	0.11	1.83
Years x Teachers	5	0.15	0.03	
Teachers x Blocks	10	0.38	0.04	
Teachers x Blocks x Years	10	0.63	0.06	

Disruptions, Middle School

Source	df	SS	MS	F
Mean	1	8.16	8.16	
Years	1	0.09	0.09	0.31
Blocks	7	0.24	0.03	1.50
Teachers	4	1.15	0.29	
Blocks x Years	7	0.51	0.07	2.33
Years x Teachers	4	0.19	0.05	
Teachers x Blocks	28	0.60	0.02	
Teachers x Blocks x Years	28	0.79	0.03	

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Per Cent Involved, Elementary School

Source	df	SS	MS	F
Mean	1	23.68	23.68	
Years	1	0.02	0.02	2.00
Blocks	2	0.001	0.000	0.00
Teachers	5	0.05	0.01	
Years x Blocks	2	0.06	0.03	10.00***
Teachers x Years	5	0.05	0.01	
Teachers x Blocks	10	0.08	0.018	
Teachers x Blocks x Years	10	0.03	0.003	

Per Cent Involved, Middle School

Source	df	SS	MS	F
Mean	1	62.44	62.44	
Years	1	0.02	0.02	5.00*
Blocks	7	0.07	0.01	2.00
Teachers	4	0.18	0.04	
Years x Blocks	7	0.04	0.006	3.00*
Teachers x Years	4	0.01	0.003	
Teachers x Blocks	28	0.15	0.005	
Teachers x Blocks x Years	28	0.07	0.002	

*$p < .10$

**$p < .01$

In-Class Observations:

Analyses of Variance on the Effects of

Experienced Vs. Inexperienced Teachers

Reinforcement

Source	df	SS	MS	F
Experience	1	3.25	3.25	2.62
Grade	1	6.39	6.39	5.14
Experience x Grade	1	- 0.36		
Error	11	13.63	- 0.36	-0.29
Blocks	7	4.63	1.24	6.29
Experience x Blocks	7	0.41	0.66	0.55
Grade x Blocks	7	1.29	0.06	1.75
Grade x Experience x Blocks	7	1.01	0.14	1.37
Error	77	8.10	0.11	

Punishment

Source	df	SS	MS	F
Experience	1	0.39	0.39	0.62
Grade	1	3.34	3.34	5.36
Grade x Experience	1	0.49	0.49	0.78
Error	11	6.84	0.62	
Blocks	7	1.00	0.14	0.41
Experience x Blocks	7	7.24	1.04	3.00
Grade x Blocks	7	1.13	0.16	0.47
Grade x Experience x Blocks	7	2.83	0.40	1.17
Error	77	26.55	0.34	

In-Class Observations:

Analyses of Variance on the Effects of

Experienced Vs. Inexperienced Teachers

Disruptions

Source	df	SS	MS	F
Experience	1	7.47	7.47	21.47
Grade	1	2.47	2.47	7.00
Grade x Experience	1	14.94	14.94	42.97
Error	11	3.82	0.35	
Blocks	7	2.05	0.29	2.52
Blocks x Experience	7	2.01	0.29	2.48
Blocks x Grades	7	1.43	0.20	1.75
Blocks x Grades x Experience	7	1.16	0.17	1.43
Error	77	8.95	0.12	

Per Cent Involved

Source	df	SS	MS	F
Experience	1	0.13	0.13	3.01
Grade	1	0.08	0.08	1.75
Grade x Experience	1	0.67	0.67	15.12
Error	11	0.49	0.04	
Blocks	7	0.65	0.01	1.01
Blocks x Experience	7	0.04	0.01	0.69
Blocks x Grades	7	0.06	0.01	0.95
Blocks x Grades x Experience	7	0.05	0.01	0.83
Error	77	0.71	0.01	

Project Success Environment

BEHAVIOR MANAGEMENT CHECK LIST

Based on 10 to 20 minutes of observation in the classroom, the observer rates the teacher's use of the success technique. The teacher is observed to determine whether or not and how well she carries out each of the behaviors listed below. Her use of the technique is rated on a scale from 1 to 5, where 5 indicates appropriate use of the technique and 1 indicates no use or totally inappropriate use of the success technique. If the observer is unable to judge the teacher's performance with respect to one of the listed behaviors, then no rating is given on that behavior. A final measure is obtained by summing the ratings and dividing by the number of behaviors rated.

Rating	Behavior	Comments
	I. Teacher's response to desirable beahvior- e.g. following class rules, remaining on task, making correct academic responses.	
_____	A. Teacher administers reinforcement immediately.	_____ _____ _____
_____	B. Teacher accompanies reinforcement with descriptive praise.	_____ _____ _____
_____	C. Teacher accompanies reinforcement with eye contact, approving facial expression, and often calls student by name.	_____ _____ _____
_____	D. Teacher administers reinforcement frequently.	_____ _____ _____
_____		
Total		

Teacher's response to desirable behavior - cont'd:

Rating	Behavior	
_____	E. Teacher frequently moves around the classroom monitoring student activity.	_____
_____	F. Teacher recognizes raised hands immediately, even if only to assure a student that she will be with him mementarily.	_____
_____	G. Teacher unpredictably reinforces well-learned behaviors such as remaining on task and working without help.	_____
_____	H. Teacher sets up positive contingencies for students who finish assigned exercises quickly and correctly.	_____
_____	I. Teacher reinforces all students with approximately equal frequency.	_____

_____
Total

Rating	Behavior	Comments
_____II.	Teacher's response to undesirable behavior (where punishment is not appropriate - e.g. not following class rules, remaining off task, and responding correctly or not at all to academic material.	
_____	A. Teacher ignores the undesired behavior.	
_____	C. Teacher finds opportunity to reinforce the misbehaving or incorrectly responding student for desirable behavior incompatible with his previous undesired behavior.	
_____III.	Where punishment is appropriate (e.g. persistent and continuous disruption, or violent, dangerous misconduct), the teacher uses a warning signal and, if behavior continues, a properly and calmly administered punishment procedure (time-out, withdrawal of privilege, fines).	

_____Total _____# Behaviors Observed

_____Grand Total _____ Rating